

TUESDAY POSTERS

PROTEOMICS: QUANTITATION TECHNIQUES, 001 - 037

- TP 001 **Inferring Physically Adjacent Interactions of Yeast Proteins from Fabricated Quantitative Profiles Generated by Free Flow Electrophoresis;** Zhi-bin Ning; Qing-run Li; Rong-xia Li; Rong Zeng; *Shanghai Institutes for Biological Sciences, Shanghai, China*
- TP 002 **Application of Guanidination Chemistry for Protein Identification and Quantitation by LC-ESI MS/MS and LC-MALDI MS;** Michael Harder¹; Vic Spicer¹; John P. Cortens²; Werner Ens¹; Kenneth G. Standing¹; John A. Wilkins¹; Oleg V. Krokhnin¹; ¹*University of Manitoba, Winnipeg, Canada*; ²*Manitoba Centre for Proteomics and Systems Biology, Winnipeg, Canada*
- TP 003 **Top-Down Quantitation and Characterization of Reductive Alkylation-Modified Proteins;** Zhiguo Zheng²; Weiming Wang¹; Yong Liang¹; Joseph Fernandez¹; Haiteng Deng¹; ¹*The Rockefeller University, New York, NY*; ²*Zhejiang Cancer Research Institute, Hangzhou, China*
- TP 004 **DiART (Deuterium isobaric Amine Reactive Tag) Reagents for Quantitative Proteomics;** Shuwei Li; *Center for Advanced Research in Biotechnology, Rockville, MD*
- TP 005 **Trypsin-Catalyzed 18O-Monolabeling of Peptide Fragments for Quantitative Proteomics;** Masaru Mori¹; Kohei Abe^{1,2}; Hiroaki Yamaguchi^{1,2}; Junichi Goto²; Miki Shimada^{1,2}; Nariyasu Mano^{1,2}; ¹*Tohoku University, Sendai, Japan*; ²*Tohoku University Hospital, Sendai, Japan*
- TP 006 **An Attempt to Quantitative Analysis for Clinical Proteomics by Liquid Chromatography/ESI-Ion Trap MS Using Stable Isotope-Labeled Small Organic Molecules;** Sadamu Kurono^{1,2}; Yuka Kaneko^{1,2}; Takeshi Ueda³; Masayuki Maruoka³; Hanjoungh Cho⁴; Satomi Niwayama⁴; ¹*Osaka University Graduate Schl, Osaka, Japan*; ²*Wako Pure Chemical Industries, Ltd., Osaka, Japan*; ³*Chiba Cancer Center, Chiba, Japan*; ⁴*Texas Tech University, Lubbock, TX*
- TP 007 **Variable Mass H/D-Isotope Dipeptide Tags for Simultaneous Peptide Sequencing and Protein Quantitation;** Seung Koo Shin; Jongcheol Seo; Min-Soo Suh; Hye-Joo Yoon; *POSTECH, Pohang, South Korea*
- TP 008 **Title: Solid-Phase SCX Column Digestion Coupled with iTRAQ™ Labeling of Immuno-Precipitated, Low-Abundant Proteins;** Vivian Nguyen¹; Andrew James¹; Kelly Williton¹; Anna Yue Dai¹; Brett Larsen¹; Tony Pawson¹; Claus Jorgensen¹; Karen Colwill¹; Tony Pawson^{1,2}; ¹*Samuel Lunenfeld Research Institute, Toronto, Canada*; ²*University of Toronto, Toronto, Canada*
- TP 009 **Comparison of SCX and OGE Fractionation Approaches in Quantitative Shotgun Analysis of iTRAQ Labeled Arabidopsis Plant Extracts;** Yong Yang¹; Xiangjun Zhou²; Li Li^{1,2}; Sheng Zhang²; Theodore W Thannhauser¹; ¹*USDA-ARS at Cornell University, Ithaca, NY*; ²*Cornell University, Ithaca, NY*
- TP 010 **siRNA-Mediated Target Silencing and Quantitative Proteomics Using iTRAQ Reagent Chemistry;** Albina Abdrakhmanova¹; Rita Schlichting¹; Christie L. Hunter²; Christof Lenz²; Birte Sönnichsen¹; Christophe J. Echeverri¹; Dietmar Waidelich²; Cornelia Weiss-Haljiti¹; Matthias Glueckmann²; ¹*Cenix BioScience GmbH, Dresden, Germany*; ²*Applied Biosystems Germany, Darmstadt, Germany*; ³*Applied Biosystems, Foster City, CA*
- TP 011 **Compatibility of Various Sample Handling Methods with Amine-based Isotope Labeling Reactions in Quantitative Proteomics;** Lu Chen; Andy Lo; Yanan Tang; Liang Li; *University of Alberta, Edmonton, Canada*
- TP 012 **Towards the Validation of an Absolute Quantification Method using LC-MS/MS for IGF-1 and IGFBP-3;** Stéphanie Kirsch; Joelle Widart; Edwin De Pauw; *University of Liege, Liege, Belgium*
- TP 013 **Problems Encountered in Absolute Quantification and Stoichiometry Determination of Protein Complexes;** Johann Holzmann¹; Mathias Madalinski¹; Robert Kurzbauer¹; Peter Pichler¹; Michael Schutzbier¹; Otto Hudecz¹; Lukas A Huber²; Karl Mechtler¹; ¹*IMP, Vienna, Austria*; ²*Biocenter, Innsbruck, Austria*
- TP 014 **Optimization of Digestion Parameters for Protein Quantification;** Jessica Norrgran; Tracie L. Williams; Adrian R Woolfitt; Maria L. Solano; James L. Pirkle; John R. Barr; *CDC, Atlanta, GA*
- TP 015 **Comparison of Peptide Fractionation by Basic pH Reversed Phase vs. SCX for Verification of Protein Biomarker Candidates in Plasma;** Michael Burgess¹; Hasmik Keshishian¹; Veronica Saenz-vash²; Terri Addona¹; Steven A. Carr¹; ¹*Broad Institute, Cambridge, MA*; ²*Novartis Institutes for BioMedical Research, Cambridge, MA*
- TP 016 **Rapid Method Development for Protein Quantitation Using MRM with Isotopically Labeled Protein as a Global Internal Standard;** Bryan Prazen¹; Jayson A. Falkner²; Philip Mayer³; Tomas Vaisar³; ¹*Insilicos, Seattle, WA*; ²*Single Organism Software Inc, Beaverton, Or, OR*; ³*University of Washington, Seattle, WA*
- TP 017 **Identification of Differentially Expressed Proteins In Transgenic Mouse Models of Psoriasis Using Label Free Analyses;** Kathleen C. Lundberg; Chao Yuan; Julie Wolfram; Nicole Ward; Mark Chance; *Case Western Reserve Univ., Cleveland, OH*
- TP 018 **What Is A Better Approach to Quantifying Endogenous Molecules: Using A Labeled Compound, Surrogate Matrix, or Non-Labeled Compound?;** Bob Xiong; Kojo Abdul-Hadi; Patrick Bennett; Lily Li; *Tandem Labs, A LabCorp Company, Woburn, MA*
- TP 019 **Development of a Novel Solid-Phase Isotope-Coded CysteinyI Label to Study Protein Abundance During Marek's Disease Virus (MDV) Infection;** Mialy E. Ramaroson; Hsiao-Ching S. Liu; Michael B. Goshe; *NC State University, Raleigh, NC*
- TP 020 **Investigation of Mitochondrial Protein Changes in Response to RNA Interference Knock-down of Mitochondrial Superoxide Dismutase (SOD2) in Drosophila melanogaster;** David C. Simpson; Ian Martin; Mike Grotewiel; Scott Gronert; *Virginia Commonwealth University, Richmond, VA*
- TP 021 **Quantitative Proteomics to Investigate Hypoxia in Renal Carcinoma Cells;** Wendy D. Haffey; Olga Mikhaylova; Maria F. Czyzyk-krzeska; Kenneth D. Greis; *University of Cincinnati, Cincinnati, OH*
- TP 022 **Differential Isotopic Labeling of Interfibrillary Mitochondrial Thiol Proteins;** Jing Wang; Claudia Maier; *Oregon State University, Corvallis, OR*
- TP 023 **OxMRM: Further Developments to Quantify Oxidation of Endogenous Redox-Sensitive Cysteines Using Multiple Reaction Monitoring;** Jason Held; Steven R. Danielson; Judy Campisi; Chris Benz; Bradford W. Gibson; *Buck Institute for Age Research, Novato, CA*

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- TP 024 **Deciphering the Phosphorylation "Bar Code" of the β 2 Adrenergic Receptor and Monitoring its Dynamics;** Kunhong Xiao¹; Kelly Nobles¹; Kazuishi Kubota²; Judit Villen²; Wilhelm Haas²; Bo Zhai²; Xue Li²; Jinpeng Sun¹; Makoto Hara¹; Seungkirl Ahn¹; Erin Whalen¹; Sudha Shenoy¹; Steven Gygi²; Robert Lefkowitz¹; ¹*Duke University Medical Cent, Durham, NC*; ²*Harvard Medical School, Boston, MA*
- TP 025 **Quantitative Mouse Tissue Phosphoproteomics: Adapting a Chemical Labeling Strategy (Reductive Dimethylation: ReDi) to a Phosphoproteomics Pipeline;** Joshua T. Wilson-Grady; Jan Seebacher; Steven Gygi; *Dept. of Cell Biology, Harvard Medical School, Boston, MA*
- TP 026 **Quantifying Cell Cycle-Dependent Changes in Posttranslational Modifications and Interacting Network of the Yeast 26S Proteasome;** Robyn Kaake¹; Peter Kaiser¹; Lan Huang²; ¹*Univ. of California, Irvine, Irvine, CA*; ²*University of California, Irvine, CA*
- TP 027 **Determination of ChIP Antibody Specificity for Histone H3 Modifications by SILAC and a Specialized Search Engine;** Jacob D. Jaffe¹; Emily Rudomin²; Karl R. Clauser³; Steven A. Carr²; ¹*The Broad Institute of Harvard, Cambridge, MA*; ²*Broad Institute, Cambridge, MA*; ³*Broad Institute of MIT and Har, Cambridge, MA*
- TP 028 **Characterization of Non-Canonical Polyubiquitin Chains by Quantitative Mass Spectrometry;** Lilian Phu; Anita Izrael-Tomasevic; Domagoj Vucic; Ivan Bosanac; Sarah Hymowitz; David Arnott; Donald S Kirkpatrick; *Genentech, Inc., South San Francisco, CA*
- TP 029 **Development of Scheduled Multiple Reaction Monitoring (sMRM) Methods for Relative Quantification of Proteins Involved in ShcA-Mediated Signalling Network;** Cunjie Zhang¹; Yong Zhang¹; Lorne E B Taylor¹; Andrew James¹; Stephen A Tate²; Tony Pawson¹; ¹*SLRI, Mt. Sinai, Toronto, ON*; ²*MDS Sciex, Toronto, ON*
- TP 030 **Absolute Quantitation of Phosphorylation Dynamics in the Analysis of Human Breast Cancer Signaling Pathways Using Multiple Reaction Monitoring Mass Spectrometry;** Dominik Domanski; Michael Kuzyk; Leanne B Ohlund; Tyra Cross; Christoph Borchers; *UVic-GBC Proteomics Centre, Victoria, BC*
- TP 031 **Relative Quantitation of Differential Phosphorylation Patterns in the Activation Loop of Cell Cycle Checkpoint Protein Chk-2;** Michael D. Ward; Cindy Guo; Julius Nyalwidhe; Jessica Tiedebohl; Oliver John Semmes; *Eastern Virginia Medical School, Norfolk, VA*
- TP 032 **Label-Free Relative Quantification of Control/Treated IMAC Enriched C Elegans Proteins Using an Alternative Scanning LCMS Approach;** Joanne B Connolly¹; Holger Husi²; Fiona McAllister²; M W Walkinshaw²; V J Butler³; A P Page³; Perdita E Barran²; ¹*Waters, Manchester, UK*; ²*The University of Edinburgh, Edinburgh, UK*; ³*University of Glasgow, Glasgow, UK*
- TP 033 **Quantitative Proteomic Approaches for the Determination of Serum Proteome and Phosphoproteome in Patients with Benign Prostate Hyperplasia and Prostate Cancer;** Theodoros Roumeliotis¹; Nicolaie Eugen Damoc²; Michaela Scigelova²; Thomas Moehring²; Martin Hornshaw²; Spiros D. Garbis¹; ¹*Academy of Athens, Athens, Greece*; ²*Thermo Fisher Scientific, Bremen, Germany*
- TP 034 **Label-Free Quantification Approach on Enriched Phosphopeptides;** Xiaolei Xie¹; Shun Feng¹; Huy Vuong¹; Yashu Liu¹; Steve Goodison²; David M. Lubman¹; ¹*University of Michigan, Ann Arbor, MI*; ²*University of Florida, Jacksonville, FL*
- TP 035 **A Simple Label-free LC-MS/MS Strategy Towards Comprehensive Phosphoproteomics View that Depict the Mechanisms of Cancer Cell Invasion;** Yi Ting Wang¹; Chia-feng Tsai²; Tzu-Chan Hong³; Chih-chiang Tsou⁴; Pei-yi Lin⁶; Tse-Ming Hong⁵; Pan-Chyr Yang^{3,5}; Ting-yi Sung⁴; Wen-Lian Hsu⁴; Yu-Ju Chen^{6,7}; ¹*Department of Applied Chemistry National, Chia-Yi University, Chiayi, Taiwan*; ²*National Taiwan Normal University, Taipei, Taiwan*; ³*School of Medicine, National Taiwan University, Taipei, Taiwan*; ⁴*Inst. Info Sci, Acad. Sinica, Nankang, TAIWAN*; ⁵*Institute of Biomedical Science, Academia sinica, Taipei, Taiwan*; ⁶*Institute of chemistry and Genomics Research Cente, Academia Sinica, Taipei, Taiwan*; ⁷*National Core Facilities for Proteomics Research, National Science Council, Taipei, Taiwan*
- TP 036 **Simplified Method for Quantifying Phosphopeptides from In-Gel Digestions Using 8-Plex iTRAQ Reagents;** Tatiana N. Boronina; Chen Qiu; Daniel J. Leahy; Robert N. Cole; *Johns Hopkins School of Medicine, Baltimore, MD*
- TP 037 **Comparison of Protein Identification and Quantification between PQD/LTQ and Hybrid Triple Quadrupole/Linear Ion Trap;** Wells Wu¹; Guanghui Wang¹; Eric M. Billings¹; Panthip Rattanasingchan²; Paul A. Insel³; Rong-Fong Shen⁴; ¹*NIH, Bethesda, MD*; ²*Huachiew Chalermprakiet University, Thailand, Thailand*; ³*Department of Pharmacology, UC San Diego, La Jolla, CA*; ⁴*NIH, NIA, Baltimore, MD*
- BIOINFORMATICS, 038 - 071**
- TP 038 **The Effects of Mass Accuracy on the Statistical Validation of Peptide Identifications from MS/MS Data;** Ron Orlando¹; George Zohrabyan¹; Art Nuccio¹; James Atwood²; Brent Weatherly²; ¹*University of Georgia, Athens, GA*; ²*BioInquire, LLC, Athens, GA*
- TP 039 **Simulating an LC-MS Analysis of a Virtual Proteome: Does Mass Resolution Matter?** Marc V. Gorenstein; Scott Geromanos; Dan Golick; Jim Langridge; *Waters Corporation, Milford, MA*
- TP 040 **Peptide Database Search Strategies to Improve Peptide Identifications Using High Resolution Mass Spectrometry;** Edward J. Hsieh; Michael R. Hoopmann; Brendan Maclean; Michael J. Maccoss; *University of Washington, Seattle, WA*
- TP 041 **Orthogonal Criteria for Validation of MS/MS Based Peptide Identifications in Shotgun Proteomics;** Anton A. Goloborodko¹; Corina Mayerhofer²; Alexander R. Zubarev²; Irina A. Tarasova¹; Alexander V. Gorshkov³; Roman A. Zubarev²; Mikhail V. Gorshkov¹; ¹*Institute of Energy Problems of Chemical Physics, Moscow, Russian Federation*; ²*Uppsala University, Uppsala, Sweden*; ³*N.N. Semenov's Institute of Chemical Physics, Moscow, Russian Federation*
- TP 042 **Using NISTMSQC to Monitor Changes in the Proteolytic Products of Human Serum Albumin During Tryptic Digestion;** Lisa E. Kilpatrick¹; Yuri Mirokhin²; Jeri Roth²; Paul Rudnick²; Stephen E. Stein²; ¹*NIST, Hollings Marine Lab, Charleston, SC*; ²*NIST, Gaithersburg, MD*
- TP 043 **Unbiased Statistical Analysis for Multi-Stage Proteomic Search Strategies;** Logan J Everrett;

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- Charlene Bierl; Stephen R Master; *University of Pennsylvania, Philadelphia, PA*
- TP 044 **Quality of Database Matches for MS/MS Spectra Can Be Computed Analytically**; Andrey Gorin; Nikita Arnold; Robert M. Day; Tamah Fridman; *Oak Ridge National Laboratory, Oak Ridge, TN*
- TP 045 **Assessment of Peptide-Spectrum Matches Without Using a Decoy Database**; Yong Li; Predrag Radivojac; Randy J. Arnold; Haixu Tang; *Indiana University, Bloomington, IN*
- TP 046 **Local Target-Decoy: A Simple and Effective Validation Method for Shotgun Proteomics Using High Resolution Mass Spectrometry**; Jong Wha Joanne Joo¹; Seungjin Na²; Je-hyun Baek¹; Cheolju Lee¹; Eunok Paek²; ¹*Korea Institute of Science and Technology, Seoul, Rep. of Korea*; ²*Univ. of Seoul, Seoul, Rep. of Korea*
- TP 047 **Improved peptide identification using implicit properties learned from transduction support vector machines**; Michael J Sweredoski; Sonja Hess; *Caltech, Pasadena, CA*
- TP 048 **Finding Peptides with Confidence**; Shane L Hubler; Graeme Mcalister; Joshua J. Coon; Gheorghe Craciun; *Univ of Wisconsin-Madison, Madison, WI*
- TP 049 **Evaluation of Consensus Method Performance in Peptide Identification of Two Known Protein Data Sets**; Tamanna Sultana; Rick Jordan; James Lyons-Weiler; *University of Pittsburgh, Pittsburgh, PA*
- TP 050 **Novel Probability-Based Consensus Scoring Improves Identification Rates in Tandem Mass Spectrometry-Based Peptide Identification**; Sven Nahnsen^{1,2}; Andreas Bertsch²; Alfred Nordheim¹; Oliver Kohlbacher²; ¹*Proteome Center, University of Tuebingen, Tuebingen, Germany*; ²*Center of Bioinformatics, University of Tuebingen, Tuebingen, Germany*
- TP 051 **Analysis of Large-Scale Shotgun Proteomic Datasets Containing Multiple Replicates**; Damian Fermin¹; Hyungwon Choi¹; Alexey Nesvizhskii²; ¹*University of Michigan, Pathology Department, Ann Arbor, MI*; ²*University of Michigan, Ann Arbor, MI*
- TP 052 **Identifying Proteins Directly from Tandem Mass Spectra**; Marina Spivak¹; Jason Weston¹; Michael J. MacCoss²; William Stafford Noble²; ¹*NEC, Princeton, NJ*; ²*UW, Seattle, WA*
- TP 053 **Peptide Identification with Direct Computation of the Significance Level of the Results**; Jan Eriksson¹; David Fenyo²; ¹*Swedish University of Agricultural Sciences, Uppsala, Sweden*; ²*The Rockefeller University, New York, NY*
- TP 054 **Computational Analysis of Unassigned High Quality Spectra from Human T Leukemic Cells**; Kang Ning; Alexey Nesvizhskii; *University of Michigan, Ann Arbor, MI*
- TP 055 **Improving Confidence in Spectrum Mill's Sequence/Spectrum Matching Using a Refined Peptide MS/MS Fragmentation Model**; Karl R. Clauser; Steven A. Carr; *Broad Institute of MIT and Harvard, Cambridge, MA*
- TP 056 **A Computer Model for Predicting CID Spectra of Glycopeptides**; Zhongqi Zhang¹; Bhavana Shah²; ¹*Amgen, Inc., Thousand Oaks, CA*; ²*Amgen Inc., Thousand Oaks, CA*
- TP 057 **Incorporating Theoretical Intensity Prediction Information of Tandem MS Spectra is an Imperative for Eukaryotic Proteomics**; Chandra Narasimhan; *UT-ORNL Genome Science & Tec, Oak Ridge, TN*
- TP 058 **Improving Tandem Mass Spectra Identification Rate Based on Calibrating the Masses and Charges of Precursors by Continuous MS Scans**; Zuofei Yuan^{1,2}; Haipeng Wang^{1,2}; Yan Fu^{1,2}; Hao Chi^{1,2}; You Li^{1,2}; Liyun Xiu^{1,2}; Wenping Wang^{1,2}; Chao Liu^{1,2}; Leheng Wang^{1,2}; Ruixiang Sun^{1,2}; Simin He^{1,2}; ¹*Institute of Computing Technology, CAS, Beijing, China*; ²*Key Lab of Intelligent Information Processing, CAS, Beijing, China*
- TP 059 **Processing Extreme ESI Data Using a New Peak Modelling Method**; Jenny Albanese¹; Tony Ferrige²; Stuart Ray²; Song Ye³; Robert Alecio²; ¹*Applied Biosystems, South Lake Tahoe, CA*; ²*Positive Probability Limited, Isleham, Cambs, UK*; ³*Applied Biosystems, Framingham, MA*
- TP 060 **Non-Empirical Approach for Isotopic Distribution Deconvolution in Mass Spectra of Complex Organic Compounds**; Ilya A Agron^{1,2}; Dmitriy M. Avtonomov^{1,2}; Eugene Nikolaev^{1,2}; ¹*Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation*; ²*The Institute of Biomedical Chemistry, Moscow, Russia*; ³*Emanuel Institute of Biochemical Physics, Moscow, Russia*
- TP 061 **Memory Efficient Calculation of the Isotopic Mass States of a Molecule**; Long Li; Pengyu Hong; Jeffrey Agar; *Brandeis University, Waltham, MA*
- TP 062 **Combining High Resolution Separation Techniques and High Frequency Acquisition to Improve the Deconvolution of Information from FragALL Experiments**; Gordana Ivoisev; Ron Bonner; J.c. Yves Leblanc; Nic Bloomfield; Stephen A Tate; *MDS Analytical Technologies, Concord, ON, ON*
- TP 063 **The Need for Speed: An Evaluation of Automated Charge State Deconvolution of LC/MS Data**; Timothy R. Croley¹; Denis Andrzejewski²; John H. Callahan³; Steve Musser⁴; Tracie Williams⁵; ¹*Commonwealth of Virginia, Richmond, VA*; ²*US Food & Drug Administration, College Park, MD*; ³*FDA/CFSAN, College Park, MD*; ⁴*US FDA, College Park, MD*; ⁵*Centers for Disease Control and Prevention, Atlanta, GA*
- TP 064 **Statistical Approach for High Throughput Analysis of Ultra-High Resolution Mass Spectra of Plant Extracts**; Dong Wan Lim; Kyu Hwan Park; Jang Mi Jin; Jong Shin Yoo; Hyun Sik Kim; *Korea Basic Science Institute (KBSI), Seoul, South Korea*
- TP 065 **On the Usage of the Information About the Number of Carbon Atoms in Peptides for Protein Identification**; Dmitriy M. Avtonomov^{1,2}; Ilya A Agron^{1,2}; Eugene Nikolaev^{1,3}; ¹*Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation*; ²*Institute of Biomedical Chemistry, Moscow, Russia*; ³*Emanuel Institute of Biochemical Physics, Moscow, Russia*
- TP 066 **Metabolic Labeling Validation of Peptide MS/MS Spectral Library and Development of a New Spectral Matching Algorithm for Protein Identification**; Mingguo Xu; Liang Li; *University of Alberta, Edmonton, Canada*
- TP 067 **The Development of a Summarization and Visualization Method for MSn Information Based on Social Network Analysis**; Shinichi Yamaguchi; *Shimadzu Corporation, Kyoto, Japan*

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- TP 068 **On the Application of a New MALDI/MS NIST Library to Cancer Disease Diagnosis;** Simone Cristoni¹; Sinues Pablo²; Luigi Rossi Bernardi³; ¹ISB srl, Milan, Italy; ²National Council for Research ITB - CNR, Milan, Italy; ³Multimedica Lab, Milan, Italy
- TP 069 **Merged Spectrum for Metabolite Identification in MassBank;** Hisayuki Horai¹; Masanori Arita²; Yoshito Nihei¹; Takaaki Nishioka¹; ¹IAB, Keio Univ. & BIRD, Tsuruoka, Japan; ²University of Tokyo, Kashiwa, Japan
- TP 070 **Cluster Analysis for Q-TOF MS/MS Data;** Xiaoyu Yang; Pedatsur Neta; Yamil Simon; Stephen Stein; NIST, Gaithersburg, MD
- TP 071 **A Systematic Investigation on the Improvement in Sensitivity of Spectral Library Searching over Sequence Database Searching in Proteomics;** Xin Zhang; Wenguang Shao; Henry H. Lam; Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong
- PROTEOMICS: BIOMARKER DISCOVERY, 072 - 103**
- TP 072 **Comparative Proteomic Analysis of Normal and Malignant Breast Epithelial Cells Using Laser Capture Microdissection/ LC-MS/ and Label-Free Quantification;** Sangwon Cha¹; Elizabeth Ann Richardson²; Dipak A Thakur¹; Tomas Rejtar¹; Shiawlin Wu¹; Dennis C. Sgroi²; Barry L. Karger¹; ¹Barnett Institute, Northeastern University, Boston, MA; ²Massachusetts General Hospital, Boston, MA
- TP 073 **Cell Surface and Secreted Protein Profiles of Human Thyroid Cancer Cell Lines Reveal Distinct Glycoprotein Patterns;** Ten-yang Yen¹; Arthur Arcinas¹; Nicole Haste¹; Angela Castanieto¹; Bruce Macher¹; Electron Kebebew²; ¹San Francisco State University, San Francisco, CA; ²University of California at San Francisco, San Francisco, CA
- TP 074 **Reproducibility and Repeatability in Proteomic Analyses by LC-MS/MS;** David L. Tabb¹; Lorenzo Vega-Montoto²; Asokan Mulayath Variyath²; Amy-Joan L. Ham¹; David M. Bunk¹; Lisa E. Kilpatrick⁴; Paul Rudnick³; Dean D. Billheimer⁵; Amanda Paulovich⁶; Daniel C. Liebler¹; Cliff Spiegelman²; Clinical Proteomic Technology Assessment for Cancer Network⁷; ¹Vanderbilt University, Nashville, TN; ²Texas A&M University, College Station, TX; ³National Institute of Standards and Technology, Gaithersburg, MD; ⁴NIST, Hollings Marine Laboratory, Charleston, SC; ⁵University of Arizona, Tucson, AZ; ⁶Fred Hutchinson Cancer Research Center, Seattle, WA; ⁷National Cancer Institute, Bethesda, MD
- TP 075 **The Search for a Chitin Pattern Recognition Receptor;** Karina Vega; Diana Diaz Arevalo; Teresa Hong; Karine Bagramyan; Markus Kalkum; City of Hope, Duarte, CA
- TP 076 **Secretory Proteome Analysis Identifies New Markers for Detection of High Risk Papillomavirus-Positive Cervical Cancer;** Tapas Manna; Rajeev Samant; Lewis Pannell; Mitchell Cancer Institute, Univ of South Alabama, Mobile, AL
- TP 077 **Proteomic Profiling of Maternal Plasma in First and Third Trimester by Combinatorial Peptide Affinity Chromatography and SELDI-TOF Mass Spectrometry;** Mike Hartenstine; Danielle Ippolito; Peter Napolitano; Madigan Army Medical Center, Tacoma, WA
- TP 078 **Finding Preeclampsia Biomarkers in Chorion Villus Biopsies by Mass Spectrometry;** Coskun Güzel; Eric A.P. Steegers; Joke A. Polak-Knook; Robert-Jan J.H. Galjaard; Pieter Derkx; Theo M. Luider; Erasmus MC, Rotterdam, Netherlands
- TP 079 **Label-Free Quantitation of Proteins by Liquid Chromatography-Multiple Reaction Monitoring Mass Spectrometry in Human Tissues;** Haixia Zhang¹; Qinfeng Liu²; Dean D. Billheimer³; Robbert J.C. Slebos¹; Daniel C. Liebler¹; ¹Vanderbilt University, Nashville, TN; ²Campbell University, Buies Creek, NC; ³University of Arizona, Tucson, Arizona
- TP 080 **MALDI-TOF MS is Perspective Method for Profiling Biomarkers Bound to Albumine to Detection Lung Cancer;** Valeriy Shevchenko; Natalia Arnotskaya; Elena Alekseeva; Elena Isaeva; Bakhrom Akhmedov; Irina Zborovskaya; Boris Polotskii; N. N. Blokhin Russian Cancer Research Center, Moscow, Russian Federation
- TP 081 **A Label-free Approach to Quantitate Novel Ectopic and Intrauterine Pregnancy Serum Biomarkers;** Lynn A. Beer¹; Kurt T. Barnhart²; David W. Speicher³; ¹The Wistar Institute, Philadelphia, PA; ²University of Pennsylvania, Philadelphia, PA; ³Wistar Institute, Philadelphia, PA
- TP 082 **Rapid Differential Mass Spectrometry (dMS) for Biomarker Discovery;** Yi Du; Matthew Mazur; Nathan Yates; Ronald Hendrickson; Merck Research Laboratories, Rahway, NJ
- TP 083 **Analysis of Human Pancreatic Tissue and Plasma Peptidome Reveals Potential Biomarkers for Pancreatic Cancer;** Kwasi Antwi¹; Galen Hostetter²; Michael J. Demeure²; G. Anton Decker³; Yvette Ruiz¹; Tim Sielaff⁶; Larry Koep⁴; Paul Hanavan¹; Douglas Lake¹; ¹School of Life Sciences, Arizona State University, Tempe, AZ; ²Translational Genomics Research Institute, Phoenix, AZ; ³Mayo Clinic Scottsdale, Scottsdale, AZ; ⁴Banner Good Samaritan Medical Center, Phoenix, AZ; ⁵Virginia Piper Cancer Center, Rochester, MN
- TP 084 **Discovery of Protein Biomarkers for Identification of Bacterial Isolates from Indoor Air;** Jennifer Intelicato-Young; Karen Fox; Alvin Fox; University of South Carolina, Columbia, SC
- TP 085 **Proteomic Analyses of Pancreatic Cyst Fluids;** Bhavinkumar B. Patel; Eileen Ke; Tiffany Liu; Xin-Ming Li; Oleh Haluszka; John P. Hoffman; Hormoz Ehya; Nancy A. Young; James C. Watson; David Weinberg; Minhhuyen T. Nguyen; Steven J. Cohen; Neal J. Meropol; Samuel Litwin; Jeffrey L. Tokar; Anthony T. Yeung; Fox Chase Cancer Center, Philadelphia, PA
- TP 086 **Identification and Quantification of Potential Bladder Cancer Biomarkers in Urine by Isotope Labeling and Mass Spectrometry;** YL-TING CHEN¹; Hsiao-Wei CHEN¹; Ting Chung¹; Chih-Ching Wu¹; Jau-Song Yu¹; Meng-Chieh CHEN¹; Chien-Lun CHEN²; ¹Chang Gung University, TAOYUAN, TAIWAN; ²Chang Gung Memorial Hospital, Taoyuan, TAIWAN
- TP 087 **Proteome Analysis and Evaluation of *Bacillus amyloliquefaciens* and *Bacillus subtilis* Secretomes;** Maria Claret B. Lauan¹; Ilyn Lyzette D Santos²; Sun Min Park²; Jinkyu Lim¹; ¹Kyungpook University, Daegu, South Korea; ²Kyungpook National University, Daegu, SOUTH KOREA
- TP 088 **Exploring Biomarkers in Rat Urine for α -Naphthylisothiocyanate Induced Cholestasis;** Jianzhong Chen^{1,3}; Rhonda L. Pitsch¹; Nicholas J. DelRaso²; Kari Green-church³; John J. Schlager²; Pavel Shiyonov¹; ¹Henry M. Jackson Foundation/Air Force

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- Research Lab, Dayton, OH; ²Air Force Research Lab, Dayton, OH; ³The Ohio State University, Columbus, OH
- TP 089 **Novel Strategies in Peptidomics for Osteoarthritis Biomarker Discovery;** Jurre Kamphorst^{1,3}; Rob van der Heijden¹; Jeroen DeGroot²; Theo Reijmers¹; Ubbo Tjaden¹; Jan Van Der Greef^{1,2}; Thomas Hankemeier^{1,3}; ¹Division of Analytical Biosciences, LACDR, Leiden, The Netherlands; ²TNO Quality of Life, Zeist, The Netherlands; ³Centre for Medical Systems Biology, Leiden, The Netherlands
- TP 090 **Selection and Validation of Liver Cancer Biomarker Candidates from Human Plasma Proteome;** Ju Yeon Lee¹; Jin young Kim¹; Jeong Hwa Lee¹; Gun Wook Park¹; Kyung-Hoon Kwon¹; Young Ki Paik²; Jong Shin Yoo¹; ¹Korea Basic Science Institute, Daejeon, South Korea; ²Yonsei Proteome Research Center, Yonsei University, Seoul, South Korea
- TP 091 **Global Phospho-Proteomics Screens to Define 14-3-3 Protein Targets of Specific Cell Signalling Pathways;** Silvia Synowsky; Sandra Crowther; Carol MacKintosh; Medical Research Council-PPU, Dundee, UK
- TP 092 **The SILAC Zebrafish Project;** Ann Westman-Brinkmalm¹; Alexandra Abramsson¹; Chen Gang²; Malin E Andersson¹; Gunnar Brinkmalm¹; Josef Pannee¹; Mikael K Gustavsson¹; Kaj Blennow¹; Ulla Rütschi¹; Hermann Heumann²; Henrik Zetterberg¹; ¹University of Gothenburg, Molndal, Sweden; ²Silantes, Martinsried, Germany
- TP 093 **In vivo Characterization of Endogeneous Neuropeptides and -Proteins on a Chromatographic Time-scale Using Nanoflow LC/FTICR-MS/MS;** Gunnar Brinkmalm; Erik Portelius; Annika Öhrfelt; Henrik Zetterberg; Ann Westman-Brinkmalm; Kaj Blennow; University of Gothenburg, Molndal, Sweden
- TP 094 **Quantitative MALDI-FT-ICR Analysis of Cerebrospinal Fluid of Relapsing Remitting and Primary Progressive Multiple Sclerosis Patients;** Marcel P Stoop; Mark K Titulaer; Peter C Burgers; Christoph Stingl; Peter A E Sillevs Smitt; Rogier Q Hintzen; Theo M Luider; ErasmusMC, Rotterdam, Netherlands
- TP 095 **Diagnosis of Prenatal Disorders – the Search for Biomarkers in Maternal Human Plasma Using a Robust Analytical Approach;** Susan E. Slade¹; Konstantinos Thalassinou¹; Nisha Patel¹; Joanne B. Connolly²; Chris Hughes²; Jim Langridge³; Steve Thornton¹; Kypros Nicolaides⁴; James Scrivens¹; ¹University of Warwick, Coventry, UK; ²Waters, Manchester, UK; ³Waters Corporation, Manchester, UK; ⁴King's College Hospital, London, UK
- TP 096 **ProteoMiner™ Treatment Combined to Mass Spectrometry Analysis for Biomarker Discovery: Evaluation on Human Plasma;** Damien Lavigne¹; Jean Pierre Le Caer²; Olivier Meilhac³; Jeannette Farih¹; Luc Guerrier⁴; Thibaut Léger³; Jean Baptiste Michel³; Egisto Boschetti⁴; Olivier Laprèvote^{2,5}; ¹Sysdiag, Montpellier, France; ²CNRS-ICSN, Gif Sur Yvette, France; ³Inserm U698, Paris, France; ⁴Bio-Rad, Gif sur Yvette, France; ⁵Paris Descartes University, Paris, France
- TP 097 **Protein Expression in Human Female Parotid Saliva is Age Specific;** Kiran S Ambatipudi¹; Bingwen Lu²; John Yates²; James E Melvin¹; ¹University of Rochester, Rochester, NY; ²The Scripps Research Institute, La Jolla, CA
- TP 098 **Proteolytic Peptides as Potential Biomarkers for α -Thalassemia with Stop Codon Mutations;** Duangmanee Sanmun¹; Jing Y. Chia¹; Robin Philp²; Bin Li¹; Thongperm Munkongdee³; Saovaras Svasti³; Pranee Winichagoon³; Suthat Fuchareon³; Hai Y. Law⁴; Angeline Lai¹; Ivy Ng⁴; Kai Tang¹; ¹Nanyang Technological University, Singapore, Singapore; ²Agilent Technologies Singapore Pte Ltd, Singapore, Singapore; ³Mahidol University, Puttamonthon, Thailand; ⁴KK Women's and Children's Hospital, Singapore, Singapore
- TP 099 **Identification of Potential Biomarkers in Low Molecular Weight Human Serum Fraction for Hepatocellular Carcinoma Detection Using Proteomic Strategies;** Yanming An; Christopher Loffredo; Habtom Ressonm; Radoslav Goldman; Georgetown University Hospital, Washington, DC
- TP 100 **Quantitative Proteomic Analysis of Parental and adh1 Mutant Isolates of Candida albicans in Mature Phase Biofilm;** Ali A. Lattif^{2,3}; Pranab K. Mukherjee^{2,3}; Elizabeth Yohannes^{1,3}; Hong Zhao^{1,3}; Mark Chance^{1,3}; Mahmoud A. Ghannoum^{2,3}; ¹Center for Proteomics, Cleveland, OH; ²Center for Medical Mycology, Dept. of Dermatology, Cleveland, OH; ³Case Western Reserve University, Cleveland, OH
- TP 101 **Lectins Based Identification of Cancer Associated Glycoproteins in Cancer Patient Plasma;** Qiang Gao; Dawn Watson; Catherine P Riley; Wonryeon Cho; Jiri Adamec; Fred E Regnier; Purdue University, West Lafayette, IN
- TP 102 **Proteomic Analysis of Co-Regulators in a Novel Prostate Cancer Progression Line;** John Lapek; Michael Moses; Katherine Marshall; Kevin Welle; Lauren Jensen; Karin Williams; William Ricke; Alan Friedman; University of Rochester Medical Center, Rochester, NY
- TP 103 **Discovery of Biomarkers in Patients with Visceral Leishmaniasis;** Manfred Fussi; Brian J. Ward; Momar Ndao; Christine Straccini; Bernard F. Gibbs; McGill University, Montreal, Canada

METABOLOMICS, 104 - 120

- TP 104 **Quantitative Phosphorus Metabolomics Using Nano-Flow Liquid Chromatography-Tandem Mass Spectrometry and Culture-Derived Comprehensive Global Internal Standards;** Taisuke Uehara^{1,2}; Akira Yokoi¹; Ken Aoshima^{1,2}; Satoshi Tanaka^{1,2}; Tadashi Kadowaki¹; Masayuki Tanaka¹; Yoshiya Oda^{1,2}; ¹Eisai, Tsukuba, JAPAN; ²CREST, Saitama, Japan
- TP 105 **Metabolomics of Soybean Root Hairs Inoculated with Bradyrhizobium japonicum;** Zhentian Lei¹; Laurent Brechenmacher²; Seth Findley²; Marc Libault²; Gary Stacey²; Lloyd W. Sumner¹; ¹The Samuel Roberts Noble Foundation, Ardmore, OK; ²University of Missouri, Columbia, MO
- TP 106 **Oxidative Metabolism Drives Stem Cell Differentiation;** Oscar Yanes; Julie Clark; Diana Wong; Paul H Benton; Sunia Trauger; Caroline Despons; Sheng Ding; Gary Siuzdak; The Scripps Research Institute, La Jolla, CA
- TP 107 **Differential ¹³C-/¹²C-Isotope Dansylation Labeling and Fast LC FT-ICR MS for Quantitative Metabolome Analysis;** Kevin Guo; Liang Li; University of Alberta, Edmonton, Canada
- TP 108 **Evaluation of the Cellodextrin Profiles of the Enzymatic Digests of Switchgrass;** Bruce A. Tomkins; Gary J. Van Berkel; Timothy J. Tschaplinski; Nancy L. Engle; Oak Ridge National Laboratory, Oak Ridge, TN

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- TP 109 **Identification of Biomarkers in Biofluids: Introduction of a Comprehensive Analytical Strategy Based on LC-MS/MS and Candidate Confirmation Tools;** Rayane Mohamed¹; Emmanuel Varesio¹; Ron Bonner²; Gerard Hopfgartner¹; ¹University of Geneva, Geneva, Switzerland; ²MDS Analytical Tec, Sciex, Concord, ON
- TP 110 **A generic Calibration Method to Improve Data Precision and Accuracy in Label Free Metabolomics, a First Step Towards Quantitative Metabolomics;** Elwin Verheij; Frans van der Kloet; Renger Jellema; Ivana Bobeldijk; *TNO Quality of Life, Zeist, Netherlands*
- TP 111 **Application of Supercritical Fluid Technologies to Profiling of Various Lipophilic Metabolites;** Takeshi Bamba; Atsuki Matsubara; Eiichiro Fukusaki; *Graduate School of Engineering, Osaka University, Suita, Osaka, Japan*
- TP 112 **A Novel Method for Robust LC/MS-TOF Analysis of Hydrophilic Metabolite Classes by Aqueous Normal Phase on a Silica Hydride-Based Column;** Joseph J. Pesek¹; Maria Matyska¹; William Ciccone²; Steven M. Fischer³; Theodore R. Sana³; ¹San Jose State University, San Jose, CA; ²Microsol Technologies, Eatontown, NJ; ³Agilent Technologies, Santa Clara, CA
- TP 113 **LC/MS-TOF Analysis of Metabolites in Plasmodium Falciparum-Infected Red Blood Cells (RBCs) Exposed to the Cell Membrane Permeabilization Agent Streptolysin O;** Theodore R. Sana¹; Steven M. Fischer¹; William L. Gosnell²; Abby Collier²; Sandra Chang²; ¹Agilent Technologies, Santa Clara, CA; ²John A. Burns School of Medicine, Honolulu, HI
- TP 114 **Metabolic Profiling of a Single Live Cells by Laser Ablation Electrospray Ionization Mass Spectrometry;** Bindesh Shrestha; Akos Vertes; *George Washington University, Washington*
- TP 115 **Toward Simultaneous Determination of Ionic Metabolites by Capillary Electrophoresis-Mass Spectrometry;** Yoshiaki Ohashi¹; Takushi Ooga¹; Hajime Sato¹; Atsushi Nagashima¹; Masaru Tomita^{1,2}; Tomoyoshi Soga^{1,2}; ¹Human Metabolome Technologies, Inc., Tsuruoka, Japan; ²Institute for Advanced Biosciences, Keio University, Tsuruoka, Japan
- TP 116 **Pathway Identification by ¹³C Metabolomics Using Liquid Chromatography High-Resolution Mass Spectrometry: Elucidation of the Ethylmalonyl-CoA Pathway for Glyoxylate Regeneration;** Patrick Kiefer¹; Rémi Peyraud¹; Philipp Christen¹; Jean-Charles Portais²; Julia A. Vorholt¹; ¹Swiss Federal Institute of Technology, Zurich, Switzerland; ²LISBP, INSA, Toulouse, France
- TP 117 **Study of Metabolites Including α -Tomatine by Femtosecond Laser-Induced Ionization/Dissociation (fs-LID);** Nelson S. Winkler; Christine L. Kalcic; A. Daniel Jones; Marcos Dantus; *Michigan State University, East Lansing, MI*
- TP 118 **Biomarker Discovery in Diabetic Nephropathy by Targeted Metabolomics;** Ulrika Lundin; Klaus M. Weinberger; *Biocrates Life Sciences AG, Innsbruck, Austria*
- TP 119 **Improving the Analytical Strategies for LC-MS of Polar Metabolites;** Thomas Hankemeier^{1,2}; Toshi Mikami¹; Miguel Rojas^{1,2}; Rob Vreeken^{1,2}; Theo Reijmers^{1,2}; ¹Leiden University, Leiden, Netherlands; ²Netherlands Metabolomics Centre, Leiden, The Netherlands
- TP 120 **Optimisation of a Method for Metabolomic Analysis of Tissue Culture and Plasma Using a UHPLC/QTOF System;** Florence Raynaud¹; Rupinder Pandher¹; Celine Ducruix¹; Edgar Naegelé²; ¹The Institute of Cancer Research, Sutton, UK; ²Agilent Technologies, Waldbronn, Germany
- PROTEOMICS: NEW APPROACHES, 121 - 149**
- TP 121 **Microwave Assisted Chemical and Enzymatic Proteolysis for Mass Spectrometric Identification of Protein Variants;** Asif Alam^{1,2}; Yuanzhong Yang²; Reinhard I. Boysen²; Donald K. Bowden³; Milton T. W. Hearn²; ¹Biochemistry & Molecular Biology, Monash University, Vic, Australia; ²ARC Special Research Centre for Green Chemistry, Monash University, Vic, Australia; ³Thalassaemia Service, Monash Medical Centre, Clayton, Victoria, Australia
- TP 122 **Lys-N: A novel Protease Ideal, in Combination with SCX and ETD, for Proteomics;** Nadia Taouatas; A.F. Maarten Altelaar; Madalina M. Drugan; Andreas O. Helbig; Albert J.R. Heck; Shabaz Mohammed; *Utrecht University, Utrecht, Netherlands*
- TP 123 **Proteome Analysis by an On-Target Digestion MALDI- FTICR Approach;** Chunyan Li¹; Peng Zhao¹; Lance Wells²; Jon Amster¹; ¹University of Georgia, Athens, GA; ²CCRC/UGA, Athens, GA
- TP 124 **On-Substrate Labeling of Peptides Using Cleavable Fluorous Labels Immobilized on Fluorous Silica Support;** Manoj Pal^{1,2}; Bruhaspathy Miriyala²; Marvin S. Yu²; Eric C. Peters¹; ¹GNF (Novartis), San Diego, CA; ²Fluorous Technologies Inc., Pittsburgh, PA
- TP 125 **Ultra-Rapid Pressure Digestion and Label-Free Quantitative Proteomics of Yersinia Infected Mice Tissues;** Kim K. Hixson¹; Daniel Lopez Ferrer¹; Matthew Bender²; Patricia L. Worsham³; Karl K. Weitz¹; Nate Lawrence⁴; Amy Rasley⁵; Therese W. Clauss¹; Ljiljana Pasa-tolic¹; Richard D. Smith¹; Mary S. Lipton¹; ¹Pacific Northwest National Lab, Richland, WA; ²NBACC, Washington, DC; ³USAMRIID, Frederick, MD; ⁴Pressure Biosciences, Inc., South Easton, MA; ⁵Lawrence Livermore National Lab, Livermore, CA
- TP 126 **Use of Proteinase K to Improve Resolution in Hydrogen/Deuterium Exchange Mass Spectrometry;** John Venable; Linda Okach; William Scuba; Ansgar Brock; *Genomics Institute for the Novartis Research Found, San Diego, CA*
- TP 127 **A Comparison of Proteolytic Digestion Techniques on Different Sample Formats;** Tommy K. Cheung; Teerapat Rosajakul; David Arnott; Qui Phung; *Genentech, Inc., South San Francisco, CA*
- TP 128 **Optimization of Microwave-Assisted Proteolysis for Highly Efficient and More Comprehensive Protein Profiling;** Yi Huang^{1,2}; Fang Xu^{1,3}; Sun Yong Jeong¹; Yanbao Yu^{1,2}; Xian Chen¹; ¹University of North Carolina, Chapel Hill, NC; ²Fudan University, Shanghai, China; ³Jiaotong University, Shanghai, China
- TP 129 **Proteomics Under Pressure: Rapid Extraction and Digestion in a Single Tube;** Alexander V. Lazarev¹; Emily Freeman²; Vera S. Gross¹; Greta Carlson¹; Edmund Ting¹; Alexander R. Ivanov²; ¹Pressure BioSciences, Woburn, MA; ²Harvard School of Public Health, Boston, MA
- TP 130 **'Genome Free' Proteomics; de novo Sequence Analysis by a Combination of LysN Protein Digestion and Electron Transfer Dissociation;** A.F. Maarten Altelaar^{1,2}; Madalina M. Drugan^{1,2}; Nadia Taouatas^{1,2};

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- Nikolai Mischerikow^{1,2}; Bas van Breukelen^{1,2}; Shabaz Mohammed^{1,2}; Albert J.R. Heck^{1,2}; ¹*Utrecht University, Utrecht, Netherlands*; ²*Netherlands Proteomics Centre, Utrecht, The Netherlands*
- TP 131 **An Efficient On-pellet-Digestion Procedure Coupled to Extensive Nano-LC Separation/ Orbitrap for Comprehensive and Large-scale Profiling of Swine Heart Mitochondrial Proteome**; Jun Qu^{1,2}; John Canty^{1,2}; Rebecca Young^{1,2}; Xiaotao Duan^{1,2}; Robert Straubinger^{1,2}; ¹*University at Buffalo, SUNY, Amherst, NY*; ²*New York State Center of Excellence, Buffalo, NY*
- TP 132 **High-Pressure Assisted In-Gel Tryptic Digest: Qualitative and Quantitative Aspects**; Michail Alterman¹; Melkamu Getie-Kehtie¹; Alexander Lazarev²; Vera S. Gross³; ¹*FDA, CBER, Rockville, MD*; ²*Pressure Biosciences, Inc, Woburn, MA*; ³*Pressure BioSciences, Woburn, MA*
- TP 133 **A Novel Target Peptide Quantification Method: Multiple Products Monitoring (MpM)**; Je-Hyun Baek¹; Hokeun Kim¹; Byunghee Shin¹; Sun Young Ahn²; Youngmi Kim Pak²; Myeong-Hee Yu¹; ¹*FPC at KIST, Seoul, South Korea*; ²*Kyung Hee University, Seoul, South Korea*
- TP 134 **Quantitative Cell Surface Proteome Profiling of the Human Pathogen Staphylococcus aureus AsigB Using the Biotinylation Approach**; Kristina Hempel; Andreas W. Otto; Michael Hecker; Dörte Becher; *University of Greifswald, Greifswald, Germany*
- TP 135 **Determination of the Number of Apolipoprotein Molecules in Reconstituted High Density Lipoprotein Complexes Using MALDI-MS**; R.A. Gangani D. Silva²; John B. Massey³; Henry Pownall³; Matthew R. Tubb²; Jamie Morris²; Larry Sallans¹; Stephen F. Macha¹; ¹*University of Cincinnati, Department of Chemistry, Cincinnati, OH*; ²*Department of Pathology and Laboratory Medicine, University of Cincinnati, OH*; ³*Department of Medicine, Baylor College of Medicine, Houston, TX*
- TP 136 **Determination of Cancer Biomarkers Using Targeted MS Analysis of Isotope-Labeled Formalin-Fixed Paraffin-Embedded Tissue Samples**; Leroi V. Desouza¹; Marlene M. Darfler²; David B. Krizman³; Casimir Eitner⁴; Alexander D. Romaschin⁵; Terence J. Colgan⁶; K W Michael Siu¹; ¹*York University, Toronto, Canada*; ²*Expression Pathology Inc., Gaithersburg, MD*; ³*Expression Pathology Incorporated, Gaithersburg, MD*; ⁴*Expression Pathology, Inc., Gaithersburg, MD*; ⁵*St Michael's Hospital, Toronto, Canada*; ⁶*Mt. Sinai Hospital, Toronto, Canada*
- TP 137 **A Comparison of Proteins and Their Expression Levels within Different Regions of Multi-Cellular Spheroids (MCTS)**; Chris Sutton; Kelly McMahon; Roger M. Phillips; *Institute of Cancer Therapeutics, Bradford, UK*
- TP 138 **Novel High-Throughput SRM (/MRM) Based Proteomic Strategy**; Bruno Domon¹; Paola Picotti¹; Nathalie Selevsek¹; Reiko Kiyonami²; Alan E. Schoen²; Amol Prakash²; Scott Pterman²; Andreas F Huhmer²; Ruedi Aebersold¹; ¹*ETH Zurich, Zurich, Switzerland*; ²*ThermoFisher Scientific, San Jose, CA*
- TP 139 **Quantitative Proteomic Analysis of Syk-Interacting Protein Complexes Using Novel Labeling Reagents and a Single-Chain Anti-GFP Antibody**; Jacob A. Galan^{1,3}; Leela L. Paris^{2,3}; Hua-Jie Zhang^{1,3}; Robert L. Geahlen^{2,3}; W. Andy Tao^{1,3}; ¹*Dept of Biochemistry, Purdue University, West Lafayette, IN*; ²*Dept of*
- Medicinal Chemistry, Purdue University, West Lafayette, IN*; ³*Purdue Cancer Center, West Lafayette, IN*
- TP 140 **Pacific: How to Quantify Deeper Into the Proteomics Ocean**; Alexandre Panchaud; Scott A. Shaffer; David R. Goodlett; *University of Washington, Seattle, WA*
- TP 141 **Rapid, Near Proteome-Wide Quantitative Analysis of Aneuploid Budding Yeast**; Noah E. Dephoure¹; Eduardo M. Torres²; Judit Villen¹; Angelika Amon²; Steven Gygi¹; ¹*Harvard Medical School, Boston, MA*; ²*Howard Hughes Medical Institute, MIT, Cambridge, MA*
- TP 142 **Subunit Stoichiometry and Absolute Quantification of Protein Complexes Using an Integrated Bottom Up Approach**; Lan Huang¹; Yingying Yang¹; Yimeng Dou²; Jenny Wu²; Lei Fang¹; Rick Lathrop^{1,2}; Wes Hatfield^{1,2}; Ruslan Aphasizhev¹; Xiaojie Qi¹; Suzanne Sandmeyer¹; ¹*University of California, Irvine, CA*; ²*CODA Genomics, Inc, Laguna Hills, CA*
- TP 143 **Chemoproteomics Technology for Target Protein Profiling and its Applications for Drug Discovery**; Hua Tang; Scott Warder; Paul Richardson; Robert Hubbard; Michael Michaelides; Todd Hansen; Shaun McLoughlin; *Abbott laboratories, Abbott Park, IL*
- TP 144 **Functionalized Nano-chemical Probes for Resolving Protein Complexes Related to Estrogen Action Using MS-Based Quantitative Proteomics**; Pai-Chiao Cheng; Hsiang-Kai Chang; Shu-Hui Chen; *National Cheng Kung University, Tainan, Taiwan*
- TP 145 **CCMS – A Unique Technology Enabling Improved In-Depth Proteomic Analysis and Drug Development Through Functional Isolation of Sub-Proteomes**; Mirko Glinski¹; Thomas Lenz¹; Yan Luo¹; Peter Poot²; Christian Blex¹; Olivia Baessler¹; Jenny J. Fischer¹; Christian Dalhoff¹; Michael Hueben²; Elmar Weinhold²; Mathias Dreger¹; Michael Sefkow¹; Hubert Koester¹; ¹*caprotec bioanalytics GmbH, Berlin, Germany*; ²*RWTH Aachen, Aachen, Germany*
- TP 146 **Identification of HuD Specific Antibodies Related to Paraneoplastic Neurological Syndrome by Advanced Mass Spectrometry**; Lennard Dekker; Peter Maat; Eric Brouwer; Theo Luider; Peter Sillevius Smitt; *Erasmus Medical Center, Rotterdam, Netherlands*
- TP 147 **Deciphering the Dynamic Structure and Function of the 26S Proteasome Complex Upon Oxidative Stress**; Xiaorong Wang; Lan Huang; *University of California, Irvine, CA*
- TP 148 **Dissection of the MAPK Signal Cascades Using in vivo Profiling Endogenous Interactions with Knock-out (iPEIK) in Mammalian Cells**; Ling Xie; linhong Jing; Yu Yanbao; Kazuhiro Nakamura; Gary L Johnson; Xian Chen; *University of North Carolina, Chapel Hill, NC*
- TP 149 **Identification of a Viral Protein that Inhibits Insulin Receptor Activation – a Slow, Deliberate, Massively Serial Analysis of Viral Interactomes**; Richard S. Johnson; Refugio Martinez; Stefan Ponko; Steve Wiley; Kaykas Ajamete; *VLST Corp, Seattle, WA*

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SMALL SCALE SEPARATIONS, 150 - 173

- TP 150 **Top Down Proteomics Using Online Polymer Reversed Phase (PLRP) Nanocapillary-LC Coupled Fourier Transform Mass Spectrometry;** Adaikkalam Vellaichamy¹; John Kellie¹; John C. Tran¹; Ji Eun Lee¹; Jaeyun Sung¹; Nathan D. Price¹; Gary Valaskovic²; Neil L. Kelleher¹; ¹University of Illinois, Urbana, IL; ²New Objective, Inc., Woburn, MA
- TP 151 **Comparison of Chromatographic Media for Nano ESI LC-MS/MS: Applications to Biomarker Discovery;** Michael Gardner¹; Megan Rowland²; Jonathan L. Bundy¹; James Stephenson¹; Gary Valaskovic³; Mike S. Lee⁴; ¹Research Triangle Institute, Rtp, NC; ²RTI International, Cary, NC; ³New Objective, Inc., Woburn, MA; ⁴Milestone Development Services, Newtown, PA
- TP 152 **High Resolution Dual Nano-LC/MS Source for Increasing Sample Throughput of Gradient LC Methods;** Arthur J. Fogiel; Arthur J. Fogiel Jr; Sau Lan Tang Staats; Katherine Heaton; Lee Heineman; *Phoenix S & T, Inc, Chester, PA*
- TP 153 **Optimal Approach for Multiplexed NanoLC-MS;** Sau Lan Tang Staats; Arthur Fogiel; Andris Suna; Arthur Fogiel, Jr; Katherine Heaton; *Phoenix S & T, Inc, Chester, PA*
- TP 154 **Automated 2D Peptide Separation on a 1D Nano-LC-MS System;** Paul Taylor²; Peter Nielsen³; Morten B Trelle³; Ole Hørning³; Michael Barrett Andersen³; Ole Vorm³; Michael Moran²; Thomas Kislinger¹; ¹University of Toronto, Toronto, ON; ²Hospital for Sick Children, Toronto, ON; ³Proxeon, Odense, Denmark
- TP 155 **An Investigation into the Reproducibility of LC-MS Analysis of Complex Peptide Mixtures Using Formalin-Fixed Paraffin-Embedded (FFPE) Tissue;** Chris Hughes¹; Thérèse McKenna¹; Jim Langridge¹; Niroshini Nirmalan²; Rosamonde Banks²; ¹Waters Manchester UK, Manchester, UK; ²University of Leeds, Leeds, UK
- TP 156 **Ruggedness of Nanobore LCMS for Qualitative and Quantitative Biomarker Analysis Using an Automated Emitter Positioning and Rinsing System;** Amanda Berg; Carla Marshall-Waggett; Gary Valaskovic; *New Objective, Inc., Woburn, MA*
- TP 157 **Improved Throughput for Clinical Proteomics Using a Dual Channel NanoLC-Nanospray Source;** Cheryl F. Licht¹; Ben Ngo²; Marjorie A. Case¹; R. Reid Townsend¹; Gary A. Valaskovic²; ¹Washington University School of Medicine, St. Louis, MO; ²New Objective, Inc., Woburn, MA
- TP 158 **Reduced Carry-Over, Fast Nanoflow LC/MS Using a Parallel Analysis / Wash Approach;** Tom Van De Goor; Lukas Trojer; Hans-Georg Weissgerber; *Agilent Technologies, Waldbronn, Germany*
- TP 159 **Increased Peak Capacity for Nano HPLC Separation of Peptides by Using Long Packed Columns;** Goran Mitulovic¹; Sebastiaan Eeltink³; Remco Swart³; Mark van Gils²; Karl Mechtler⁴; ¹IMBA Inst. of Mol. Biotech., Vienna, Austria; ²Dionex, Sunnyvale, CA; ³Dionex Benelux, Amsterdam, The Netherlands; ⁴IMP Research Institute of Mo, Vienna, AUSTRIA
- TP 160 **Comparison of Conventional, Sub-2-um, and Superficially Porous (Fused-Core) Particles for Long and Short Gradient Nanobore LC/MS;** Robert Moody¹; Gary Valaskovic²; Mike S. Lee³; ¹MAC-MOD Analytical, Chadds Ford, PA; ²New Objective, Inc., Woburn, MA; ³Milestone Development Services, Newtown, PA
- TP 161 **Temperature Control Effects in Packed Emitter Nanobore LC-MS/MS for Protein Digest Analysis;** Mike S. Lee¹; Lee Sawdey²; Amanda Berg²; Gary Valaskovic²; ¹Milestone Development Services, Newtown, PA; ²New Objective, Inc., Woburn, MA
- TP 162 **The Effect of Chromatographic Resolution on Peptide Identification;** Remco Van Soest; David Neyer; J. Bryce Young; *Eksigent Technologies, Dublin, CA*
- TP 163 **Measurement of Melamine in Dog Plasma by Direct Injection Using Nano-Pump Switching Nanospray Tandem Mass Spectrometry (MS/MS);** Daniel Magiera¹; Gary Valaskovic²; Mike S. Lee³; ¹Molecular MS Diagnostics, Cranston, RI; ²New Objective, Inc., Woburn, MA; ³Milestone Development Services, Newtown, PA
- TP 164 **High Voltage Programming for Optimum MS/MS Sensitivity of Neuropeptides;** David P. Budac¹; Mark J. Hayward²; Arthur Fogiel³; ¹Lundbeck Research US, Paramus, NJ; ²Lundbeck Research USA, Stockton, NJ; ³Phoenix S&T, Chester, PA
- TP 165 **Nano LCMS with Simultaneous Low Volume Fractionation Followed by Low Flow Infusion for the Analyses of Complex Proteomic Samples;** Reinaldo Almeida²; Leonie F. Waanders¹; Peter Bandila¹; Mark Allen²; Matthias Mann¹; ¹Max Planck Institute for Biochemistry, D Martinsried, Germany; ²Advion Biosciences Ltd, Norwich, Norfolk, UK
- TP 166 **EWOD Digital Microfluidic Platform for Protein Capture and Analysis;** Adam A. Stokes; Yifan Li; William Parkes; David J Clarke; Pat Langridge Smith; Anthony J. Walton; C. Logan Mackay; *University of Edinburgh, Edinburgh, UK*
- TP 167 **Gangliosides Analysis by Capillary Electrophoresis/Electrospray Ionization/Mass Spectrometry Using Nonvolatile Borate Buffer;** Ju-Li Huang; Yun-Hung Hsueh; Guor-Rong Her; *National Taiwan University, Taipei, Taiwan*
- TP 168 **Comprehensive LC-CE-MS with Capillary Chromatography Coupled to a Microfabricated Device with Integrated Lossless Sample Transfer, Electrophoretic Separation, and Electrospray Ionization;** J. Scott Mellors; J. Michael Ramsey; *University of North Carolina, Chapel Hill, NC*
- TP 169 **Step Elution SPE Multichannel CE-MS: A High Throughput Two-dimensional Separation Approach for Protein Analysis;** Wei-Han Lee; Guor-rong Her; *National Taiwan University, Taipei, Taiwan*
- TP 170 **Reversed Phase Monolithic Column Array Devices for Analysis of Peptide Mixtures;** Jian Liu; Daniel Higbee; Michael Schilling; Ranu Nayak; Daniel R. Knapp; *Medical University of SC, Charleston, SC*
- TP 171 **High Capacity Separations for Complex Proteomic Mixtures Using Multiple Microfluidic Chip Columns in Series;** J. Bryce Young; David Wyrick; Erika Lin; Remco van Soest; Nicole Hebert; *Eksigent Technologies, Dublin, CA*
- TP 172 **Profiling Stress-Induced Neuropeptidomic Changes with Capillary Electrophoresis-Mass Spectrometry and Stable Isotopic Labeling Technique;** Junhua Wang; Feng Xiang; Yuzhuo Zhang; Zichuan Zhang; Lingjun Li; *UW-Madison, Madison, WI*
- TP 173 **Application and Evaluation of Porous Tip CE-MS Interface Design to Narrow Bore (~5 µm) CE**

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Capillaries; Mehdi Moini¹; Michelle Hentz¹; Emily Chen²; ¹Texas State University, San Marcos, TX; ²University of Texas at Austin, Austin, TX

IMAGING MS: INSTRUMENTATION AND METHOD DEVELOPMENT, 174 - 202

- TP 174 **Principal Component Analysis (PCA) Applied to MALDI-MS Images, Unsupervised Data Interrogation Directing Peptide Selection from Trypsin-Digested Tissue Sections;** Emrys A Jones¹; Adam McMahon¹; Alex Henderson¹; Herve Boutin¹; Emmanuel Raptakis²; Patricia Price¹; ¹University of Manchester, Manchester, UK; ²Kratos Analytical, Manchester, UK
- TP 175 **Locating Spatially-Localized Molecules in MALDI-Images;** Jocelyne Bruand¹; Maxence Wisztorski²; Isabelle Fournier³; Michel Salzet⁴; Eduardo R. Macagno¹; Vineet Bafna⁵; ¹UCSD, La Jolla, CA; ²University of Lille 1, Villeneuve D'ascq, France; ³University of Lille 1, FRE-C, Villeneuve D'ascq Cedex, France; ⁴FRE-CNRS 2933, University, Villeneuve D'ascq Cedex, France; ⁵Univ. Cal. San Diego, San Diego, CA
- TP 176 **Imaging mzML (imzML) – a Common Data Format for Imaging Mass Spectrometry;** Andreas Roempp¹; Thorsten Schramm¹; Ivo Klinkert²; Alfons Hester¹; Jean-Pierre Both³; Marc Brulet⁴; Alain Brunelle⁴; Olivier Laprevote^{4,5}; Ron M.A. Heeren²; Markus Stoeckli⁶; Bernhard Spengler¹; ¹Justus Liebig University, Giessen, Germany; ²FOM Inst. Atomic/Molecular Physics, Amsterdam, Netherlands; ³CEA, Saclay, France; ⁴ICSN - CNRS, Gif Sur Yvette, France; ⁵Paris-Descartes University, Paris, France; ⁶Novartis Institutes for BioMedical Research, Basel, Switzerland
- TP 177 **Automated Classification and Grading of Tumors in Mass Spectrometric Images Using Postprocessed Random Forests;** Michael Hanselmann¹; Ullrich Köthe¹; Marc Kirchner¹; Bernhard Y. Renard¹; Erika R. Amstalden²; Kristine Glunde³; Ron M.A. Heeren²; Fred A. Hamprecht¹; ¹University of Heidelberg, Heidelberg, Germany; ²FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands; ³Johns Hopkins University SOM, Baltimore, MD
- TP 178 **MALDI Imaging: Interpretation of Gastric Cancer MALDI Images by Hierarchical Clustering;** Arndt Asperger¹; Sören-Oliver Deininger¹; Matthias Ebert¹; Michael Becker¹; Arne Fütterer¹; Christoph Röcken³; ¹Bruker Daltonik GmbH, Bremen, Germany; ²Department of Medicine II, Technical University, Munich, Germany; ³Institute of Pathology, Charité Univ. Medizin, Berlin, Germany
- TP 179 **A Novel Statistical Approach to the Interpretation of Complete MALDI Mass Spectrometry Imaging Datasets;** Emmanuelle Claude¹; Pr. Chen²; Keith Richardson¹; Thérèse McKenna¹; Jim Langridge¹; ¹Waters corporation, Manchester, UK; ²Academia Sinica, Taipei, Taiwan
- TP 180 **Molecular Classification of Tissue Arrays by Imaging MS;** M. Reid Groseclose¹; Kristina Schwamborn¹; Pierre P. Massion²; Richard M. Caprioli²; ¹Vanderbilt University, Nashville, TN; ²Vanderbilt University School of Medicine, Nashville, TN
- TP 181 **3D Imaging Mass Spectrometry...Putting Humpty-Dumpty Together Again;** Erin H. Seeley; Tuhin K. Sinha; Zhengyu Yang; Richard M. Caprioli; ¹Vanderbilt University, Nashville, TN
- TP 182 **Imaging Mass Spectrometry in Prostate Cancer - Looking Beyond Histology;** Kristina Schwamborn¹; Reid Groseclose¹; Peter Wild²; Richard M. Caprioli¹; ¹Vanderbilt University, Nashville, TN; ²Institute of Surgical Pathology, Zurich, Switzerland
- TP 183 **On-tissue Chemical Derivatization for the Analysis of Drugs by MALDI Imaging MS;** Almary Chacon; Irene Zagol-Ikapitte; Venkataraman Amarnath; John A. Oates; Olivier Boutaud; Richard M. Caprioli; ¹Vanderbilt University, Nashville, TN
- TP 184 **Tissue Imaging Using Simultaneous Chemical Derivatization and Desorption Electrospray Ionization;** Chunping Wu; Demian R. Ifa; Nicholas Manicke; R. Graham Cooks; ¹Purdue University, West Lafayette, IN
- TP 185 **Developments in Instrumentation for Atmospheric Pressure, Nanoscale Chemical Imaging via Tip-Enhanced, Near-Field Desorption/Ionization Mass Spectrometry;** Douglas E. Goeringer; James A. Bradshaw; Kent A. Meyer; Olga S. Ovchinnikova; ¹Oak Ridge National Laboratory, Oak Ridge, TN
- TP 186 **Towards Nanoscale Molecular Analysis and Chemical Imaging at Atmospheric Pressure by Near Field Laser Ablation Mass Spectrometry: Current Challenges;** Liang Zhu; Gerardo Gamez; Thomas A. Schmitz; Renato Zenobi; ¹Swiss Federal Institute of Technology, Zurich, Switzerland
- TP 187 **Profiling and Imaging Mass Spectrometry by Probe Electrospray Ionization Using Solid Needle;** Lee Chuin Chen; Zhan Yu; Rikiya Iwata; Hajime Ito; Yutaka Hashimoto; Sen Takeda; Kenzo Hiraoka; ¹University of Yamanashi, Kofu, Japan
- TP 188 **Development of a Prototype Mass Spectrometer for MS Imaging Using a High Spatial/Temporal Resolution Ion Detector;** Masahiro Hayashi^{1,2}; Yasuhide Naito¹; ¹GPI, Hamamatsu, Japan; ²Hamamatsu Photonics K.K., Hamamatsu, Japan
- TP 189 **Quantitative Evaluation of Sensitivity for Microscopic AP-MALDI-MS Imaging in Direct Tissue Analysis;** Takahiro Harada¹; Kazuteru Takahashi¹; Kiyoshi Ogawa¹; Yoshikazu Yoshida¹; Yuki Sugiura²; Takahiro Hayasaka³; Mitsutoshi Setou³; ¹Shimadzu Corporation, Soraku-gun, Japan; ²Tokyo Institute of Technology, Yokohama, Japan; ³Hamamatsu University School of Medicine, Hamamatsu, Japan
- TP 190 **Full Integration of Lab-Made DESI-MS Imaging Ion Source into Commercial MALDI-FTICR-MS Imaging System;** Michael Volny¹; Martin Strohal¹; Veronika Vidova^{1,2}; Gary Kruppa¹; Jaroslav Pol^{1,3}; Petr Novak¹; Vaclav Kobliha¹; Karel Lemr^{1,2}; Vladimir Havlicek^{1,2}; ¹Institute of Microbiology, Prague 4, Czech Republic; ²Palacky University, Olomouc, Czech Republic; ³University of Helsinki, Helsinki, Finland
- TP 191 **Tissue Imaging by 5 kHz High-Performance MALDI-TOF;** Christina Vestal¹; Kenneth Parker¹; Kevin Hayden¹; George Mills¹; Marvin Vestal¹; Shannon Cornett²; Richard M. Caprioli³; ¹Virgin Instruments Corp., Sudbury, MA; ²Vanderbilt University, Nashville, TN; ³Vanderbilt Univ Sch of Med, Nashville, TN
- TP 192 **Development of New Microscopic Micro-MALDI-Q-FTICR-MS Instrument;** Katsutoshi Takahashi; ¹Natl Institute Advan. Indus. Sci Tech, Tokyo, Japan
- TP 193 **Measuring Lipid and Peptide Collision Cross Sections Directly from Tissue Using Imaging MALDI Travelling-Wave IM-MS;** Whitney B. Ridenour¹; Michal Kliman²; John A. McLean²; Richard M.

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- TP 194 **Atmospheric Pressure UV and IR MALDI Imaging Mass Spectrometry for Peptides, Carbohydrates and Small Molecules**; Berk Oktem; Thomas D. Saul; Vladimir M. Doroshenko; *MassTech Inc., Columbia, MD*
- TP 195 **Enhanced MALDI FTMS Imaging of Drug Metabolism and Targeted Lipids with Gold and Silver Nanoparticle Matrices**; Katherine A. Kellersberger¹; Claire M. Sauvageot²; Santosh Kesari²; Steven Oldenburg³; Michael L. Easterling¹; Matt Spencer³; Paul Speir¹; Nathalie Y.R. Agar⁴; ¹*Bruker Daltonics, Inc., Billerica, MA*; ²*Dana Farber Cancer Institute, Harvard Med. School, Boston, MA*; ³*Nanocomposix Inc., San Diego, CA*; ⁴*Harvard Medical School, Neurosurgery, Boston, MA*
- TP 196 **Sub-Cellular Imaging of Neuronal Cells Cultured on Silicon Using Secondary Ion Mass Spectrometry**; Kevin Tucker; Zhen Li; Ann Knolhoff; Stanislav Rubakhin; Jonathan Sweedler; *University of Illinois, Urbana, IL*
- TP 197 **A MALDI Matrix Deposition Method for Imaging Mass Spectrometry using Low Volatile Solvent**; Mi Young Ha^{2,3}; Eun-il Park²; Sehwan Moon²; OkPyo Zee³; Yangsun Kim^{1,2}; ¹*Hudson surface Technology, Inc., Newark, NJ*; ²*Applied Surface Technology, Inc., Suwon, Korea*; ³*College of Pharmacy, Sungkyunkwan University, Suwon, Korea*
- TP 198 **Targeting of Hypoxia-Related Proteins in AQ4N Treated Solid Tumour Xenografts by MALDI-Ion Mobility Separation- Mass Spectrometry Imaging**; Marie Claude Djidja¹; Emmanuelle Claude²; Paul M. Loadman³; Chris W. Sutton³; Vikki Carolan¹; Malcolm Clench¹; ¹*Sheffield Hallam University, Sheffield, UK*; ²*Waters corporation, Manchester, UK*; ³*Institute of Cancer Therapeutics, Bradford, UK*
- TP 199 **3-Dimensional Reconstruction of Breast Tumor Xenografts with Combined Mass Spectrometry Imaging and Magnetic Resonance Spectroscopic Imaging**; Erika R. Amstalden Van Hove¹; Tiffany R. Greenwood²; Ivo Klinkert¹; Kamila Czornak¹; Ron M.A. Heeren¹; Kristine Glunde²; ¹*FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands*; ²*Johns Hopkins University SOM, Baltimore, MD*
- TP 200 **Improved On-Tissue Protein Identification in MALDI Imaging Mass Spectrometry (MSI) Using the Metalloendopeptidase Lys-N**; Kamila Czornak¹; Luke MacCaleese¹; Shabaz Mohammed^{2,3}; Albert J.R. Heck^{2,3}; Ron M.A. Heeren¹; A.F. Maarten Altelaar^{2,3}; ¹*FOM-Institute for Atomic and Molecular Physics, Amsterdam, The Netherlands*; ²*Utrecht University, Utrecht, The Netherlands*; ³*Netherlands Proteomics Centre, Utrecht, The Netherlands*
- TP 201 **Automated Sample Handling for High Throughput Imaging Mass Spectrometry**; Liam McDonnell; Hans Dalebout; Alexandra van Remoortere; René J.M. van Zeijl; André M. Deelder; *LUMC, Leiden, Netherlands*
- TP 202 **Animal Tissue Slicing: A Critical Step for Successful MALDI-MS Imaging**; Fangbiao Li¹; Walter Korfmacher²; Yunsheng Hsieh²; ¹*Schering-Plough Research Institute, Kenilworth, NJ*; ²*Schering-Plough, Kenilworth, NJ*
- TP 203 **Enhance Sensitivity for Comprehensive Phosphoproteomics Analyses Using High Field**
- TP 204 **Towards intracellular Analysis by Laser Desorption-Ion Mobility-oTOFMS**; J. Albert Schultz¹; Thomas Egan¹; Ernest K. Lewis¹; Kelley Waters¹; Valerie Vaughn¹; Valeriy Raznikov²; Jerry F. Moore³; Amina S. Woods⁴; ¹*Ionwerks, Inc., Houston, TX*; ²*Russian Academy of Science, Chernogolovka, Russia*; ³*MassThink LLC, Naperville, IL*; ⁴*NIDA-IRP, NIH, Baltimore, MD*
- TP 205 **Vacuum Ultra Violet Post-Ionization Combined with Ion-Mobility for the Characterization and Application of Functionalized Nanomaterials as MALDI Matrices**; Ernest K. Lewis¹; Thomas Egan¹; Kelley Waters¹; Sandy Yates²; Jerry F. Moore³; Carter Kittrell⁴; Steven R. Ripley⁴; K. Steven Ho⁴; Virginia Womack¹; Robert H. Hauge⁴; Valery N. Khabashesku⁵; Amina S. Woods⁶; J. Albert Schultz¹; ¹*Ionwerks, Inc., Houston, TX*; ²*Bruker Daltonics, Fremont, CA*; ³*MassThink LLC, Naperville, IL*; ⁴*Rice University, Houston, TX*; ⁵*University of Houston, Houston, TX*; ⁶*NIDA IRP, NIH, Baltimore, MD*
- TP 206 **Detailed Kinetic Studies of Solution-Phase Protein Unfolding by Time-Resolved ESI and IMS/MS Using a DMA QTOF**; John Van Nostrand¹; Tamanna Rob¹; Bruce Thomson^{1,2}; Derek Wilson¹; K W Michael Siu¹; ¹*York University - CRMS, Toronto, Canada*; ²*MDS Analytical Technologies, Concord, ON*
- TP 207 **Combining Microfluidic Cell Trapping with Real Time Monitoring of Biomolecular Exudates by Ion Mobility-Mass Spectrometry**; Jeffrey Enders; Sevugarajan Sundarapandian; Kevin Seale; John P. Wiksw; John A. McLean; *Vanderbilt University, Nashville, TN*
- TP 208 **Design of a Spherical FAIMS Cell**; Marilyn Prieto; Richard A. Yost; *University of Florida, Gainesville, FL*
- TP 209 **Study on Factors Affecting Separation and Detection of Explosives by High-Field Asymmetric Waveform Ion Mobility Spectrometry (FAIMS) / Mass Spectrometry**; Alex C. Wu; Richard A. Yost; *University of Florida, Gainesville, FL*
- TP 210 **A Software Tool for Processing Visualising, and Manipulating Multi Dimensional IMS-MS and LC-IMS-MS Data**; Martin Green; Kieran Neeson; Keith Richardson; Marc V. Gorenstein; Kevin Giles; *Waters Corporation, Manchester, UK*
- TP 211 **Optimization of Ion Injection into a Planar FAIMS Cell**; Leonard Rorrer; Richard A. Yost; *University of Florida, Gainesville, FL*
- TP 212 **Characterization of a Novel Ion Mobility-Tandem Mass Spectrometry Approach**; Yehia Ibrahim; Mikhail Belov; David Prior; William Danielson III; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*
- TP 213 **A New Unified Data Format for Ion Mobility-Time-of-Flight Mass Spectrometry**; William F. Danielson; Yan Shi; Anoop M. Mayampurath; Brian H. Clowers; Nathaniel Beagley; Anuj R. Shah; Gordon A. Anderson; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*
- TP 214 **Comparison of Square and Sinusoidal Waveforms on a Miniaturized FAIMS Planar Cell for Explosives**

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- Detection;** Chia-wei Tsai¹; Marilyn Prieto¹; Ilya Kaminsky²; Robert Ferran²; Said Boumsellek²; Richard A. Yost¹; ¹University of Florida, Gainesville, FL; ²Implant Sciences Corporation, San Diego, CA
- TP 215 **Evidence for Promotion of H/D Exchange During Transitions between Conformations of the [M+11H]¹¹⁺ State of Ubiquitin;** Brian C. Bohrer; Natalya Atlasevich; David E. Clemmer; *Indiana University, Bloomington, IN*
- TP 216 **The Interaction of Metal Counter Ions with Heparin Octasaccharides: An Ion Mobility / Mass Spectrometry Study;** You Jin Seo; Matthew R. Schenauer; Julie A. Leary; *UC Davis, Davis, CA*
- TP 217 **Ion Mobility Spectrometry for determining binding, bridging and the formation of Non-Covalent Complexes;** Bruce Andrien; Rekha Patel; Christine Nowak; Adam W. Lucka; *Alexion Pharmaceuticals, Cheshire, CT*
- TP 218 **Data Analysis Pipeline for LC-IMS-MS Based Proteomics;** Gordon Anderson; Anuj Shah; Erin Baker; Ashoka D. Polpitiya; Nikola Tolić; Anoop M. Mayampurath; Brian H. Clowers; Rui Zhao; Mikhail Belov; Richard D. Smith; *Pacific Northwest National Laboratory, West Richland, WA*
- TP 219 **Conformation Analysis of Carbonic Anhydrase2 Using Ion Mobility and Collision-Induced Dissociation Combined with Electrospray Ionization;** Yoshiaki Nabuchi¹; Kenji Hirose²; Mitsuo Takayama¹; ¹Yokohama City University, Yokohama, Kanagawa, Japan; ²Nihon Waters K.K., Osaka, Japan
- TP 220 **A Comparison of Travelling Wave and Drift Tube Ion Mobility Separations in a Novel rf Confined Helical Geometry Ion Guide;** Steven D Pringle; John B. Hoyes; David Langridge; Tony Gilbert; *Waters Corporation, Manchester, UK*
- TP 221 **Travelling Wave Ion Mobility Mass Spectrometry-based Conformational Studies of Prion Protein - Comparison of Recombinant Truncated Mouse and Syrian Hamster;** Gillian R. Hilton¹; Konstantinos Thalassinou¹; Narinder Sanghera¹; Susan E. Slade¹; Teresa J. T. Pinheiro¹; James Scrivens²; ¹University of Warwick, Coventry, UK; ²Univ of Warwick, Coventry, UK
- TP 222 **Coupling Direct Analysis in Real Time to Atmospheric Pressure Drift Tube Ion Mobility Spectrometry for Gaseous, Solid and Liquid Sample Analysis;** Glenn A Harris¹; Mark Kwasnik²; Facundo Fernandez³; ¹Georgia Institute of Technol, Atlanta, GA; ²Georgia Tech, Atlanta, GA; ³Georgia Institute of Technology, Atlanta, GA
- TP 223 **Evaluating Gas Phase Structure of Oligosaccharide by Positive/Negative MALDI-IM-TOFMS;** Pei-Jing Pai; Kent J. Gillig; Liuxi Chen; Lei Tao; David H. Russell; *Texas A&M University, College Station, TX*
- TP 224 **Computational Methods for Analyzing Liquid Chromatography Ion Mobility Spectrometry Mass Spectrometry Data;** Anoop M. Mayampurath¹; Hyejin Yoon¹; Stephen Valentine²; Ruwan Kurulugama¹; Manolo D. Plasencia¹; David E. Clemmer¹; Haixu Tang¹; ¹Indiana University, Bloomington, IN; ²Predictive Physiology and Medicine, Inc., Bloomington, IN
- TP 225 **Exploring Electrostatic Interactions in the Denatured States of Proteins by Positive/Negative MALDI-IM-TOF;** Liuxi Chen; Lei Tao; Kent Gillig; David H. Russell; *Texas A&M University, College Station, TX*
- TP 226 **An Electrospray Ion Funnel Interface for Ion Mobility-Mass Spectrometry;** Junho Jeon; Jody May; Kent Gillig; David H. Russell; *Texas A&M University, College Station, TX*
- TP 227 **Enhancements to the Ion Mobility Performance of a Travelling Wave Separation Device;** Kevin Giles; Tony Gilbert; Martin Green; Garry Scott; *Waters Corporation, Manchester, UK*
- TP 228 **Gas Phase Stability of Protein-Ligand Complexes: Unfolding and Dissociation Pathways Studied by Electrospray Ionisation-Ion Mobility-Mass Spectrometry;** Jonathan Hopper; *Univeristy of Nottingham, Nottingham, UK*
- TP 229 **Metals in Medicine: Ion Mobility Derived Gas Phase Atomic Radii;** Iain D G Campuzano¹; Keith Richardson¹; Kevin Giles¹; Jonathan P. Williams³; Alison E. Ashcroft²; Tom Knapman²; Tijana Bugarcic³; Abraha Habtemariam³; Mark Rodger³; Peter Sadler³; ¹Waters Corporation, Manchester, UK; ²University of Leeds, Leeds, UK; ³University of Warwick, Coventry, United Kingdom
- TP 230 **Multiply Charged Ionic Liquid Nanodroplets as Mobility Standards for Tandem Ion Mobility – Mass Spectrometry;** Christopher J. Hogan; Juan Fernandez de la Mora; *Yale University - Mechanical Engineering, New Haven, CT*
- TP 231 **Ion Mobility Spectrometry for Rapid Direct Analysis of Swabs for Pharmaceutical Manufacturing Equipment Cleaning Verification;** Mark A. Strega; *Eli Lilly and Company, Indianapolis, IN*
- TP 232 **On-Line Chromatography/ Dynamically Multiplexed Ion Mobility/Time-of-Flight Mass Spectrometry for High Throughput Proteomics;** Mikhail Belov; Yehia Ibrahim; David Prior; William F. Danielson; Erin Baker; Rui Zhao; Daniel Lopez-Ferrer; Brianne O Petritis; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*
- TP 233 **Compensation Voltage and Experimental Conditions Standardization in FAIMS;** Alexander Aksenov; Alexander Aksenov; *LGC Limited, Teddington, UK*
- TP 234 **Fundamentals of Ion/Ion Interactions in Ion Mobility Spectrometry;** Aleksey V. Tolmachev; Brian H. Clowers; Mikhail E. Belov; Richard D. Smith; *Pacific Northwest National Lab, Richland, WA*
- TP 235 **Characterisation of Oligomers during Amyloid Fibril Formation Using Electrospray Ionisation – Travelling Wave Ion Mobility Spectrometry – Mass Spectrometry (ESI-TWIMS-MS);** Alison E. Ashcroft; David Smith; Tom W. Knapman; Joshua T. Berryman; Sheena E. Radford; *Astbury Centre for Structural Molecular Biology, University of Leeds, Leeds, UK*
- TP 236 **Separation and Characterization of Copolymers by Ion Mobility Mass Spectrometry;** Chrys Wesdemiotis¹; Nilufer Solak¹; Andrew Baker²; ¹The University of Akron, Akron, OH; ²Waters, Inc., Pleasanton, CA

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- TP 237 **In Vitro Stability of GLP-1 in Human Serum and Plasma;** Jizu Yi; Yan-Qiu Song; David Craft; *BD Diagnostics, Franklin Lakes, NJ*
- TP 238 **Neonatal Diagnosis of Mucopolysaccharidosis II (Hunter Syndrome) Using Dried Bloodspots for Enzymatic Assay by Tandem Mass Spectrometry;** Brian J. Wolfe; Sophie Blanchard; C. Ronald Scott; Michael Gelb; Frantisek Turecek; *University of Washington, Seattle, WA*

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- TP 239 **A Cross-validated Quantitative MALDI-TOF Assay for the Rapid Analysis of Heptidin in Biofluids;** Damon Anderson¹; Udo Roth²; Christoph Menzel²; Matthew Heeney¹; Mark Fleming¹; Hanno Steen¹; ¹Harvard Medical School/Children's Hospital Boston, Boston, MA; ²qiagen GmbH, Hilden, Germany
- TP 240 **Simulation of the Oxidative Metabolism of Caspase Binding Radioligands (CBRs) by Online Electrochemistry-HPLC-MS;** Anne Baumann¹; Andreas Faust²; Klaus Kopka²; Uwe Karst¹; ¹University Münster, Inst. of Inorg. & Anal. Chem., Münster, Germany; ²University Hospital Münster, Nuclear Medicine, Münster, Germany
- TP 241 **Speciesanalysis of Cisplatinum Complexes in the Human Body;** Christine Brauckmann; Björn Meermann; Uwe Karst; *University of Muenster, Münster, Germany*
- TP 242 **MALDI-TOF Mass Spectrometry Based Identification of Clinically Important Microorganisms;** Steven K. Drake; Lindsay G. Stevenson; Nayana Patel; Patrick R. Murray; *National Institute of Health, Bethesda, MD*
- TP 243 **Application of Electrospray Ionisation for Analysis of Mice Liver – a Bioprospection Issue;** Maria Francesca Riccio Fonseca^{1,2}; Luciane Carla Alberici¹; Rosana Maria Alberici²; Helena C F de Oliveira³; Rodrigo Catharino¹; Aníbal Eugênio Vercesi¹; Marcos N Eberlin²; ¹Departamento de Patologia Clínica - UNICAMP, Campinas, Brazil; ²Thomson Lab UNICAMP, Campinas, Sp, Brazil; ³Depto Fisiologia e Biofísica – IB – UNICAMP, Campinas, Brazil
- TP 244 **LC-MS Measurement of Alpha-Ketoglutarate Levels in Blood as an Indicator of Human Health;** William E. Holmes¹; Andrew S. McDaniel¹; Stefan Pierzynowski²; Randal K. Buddington³; ¹Mississippi State University, Mississippi State, MS; ²Lunds Universitet, Lund, Sweden; ³University of Memphis, Memphis, TN
- TP 245 **Determination of the Enzyme Activity of 3-Methyl-Crotonyl CoA Carboxylase by Liquid Chromatography-Mass Spectrometry;** Eszter Javorszky; Laszlo Szonyi; Zoltan Takats; *Semmelweis University, Budapest, Hungary*
- TP 246 **Novel ATP7B Peptide Quantitation in Dried Blood Spots by LC-MS/MS for Newborn Screening of Wilson Disease;** Sandra Kerfoot¹; Sihoun Hahn^{1,2}; ¹Seattle Childrens Research Institute, Seattle, WA; ²University of Washington School of Medicine, Seattle, WA
- TP 247 **Analysis of Urinary Nucleosides as Potential Tumor Markers in Human Colorectal Cancer by LC/MS/MS;** Chien-chen Lai¹; Wei-Yi Hsu²; Fuu-Jen Tsai²; ¹National Chung Hsing University, Taichung, Taiwan; ²China Medical University Hospital, Taichung, Taiwan
- TP 248 **Characterization of Pathogenic Bacteria from Clinical Samples by Combining Functional Nanoparticle-Based Capture with MALDI MS Analysis;** Ya-Shiuan Lin¹; Wei-Jen Chen¹; Te-Lung Tsai²; Yu-Chie Chen¹; ¹National Chiao Tung University, Hsinchu, Taiwan; ²Hsinchu Mackay Memorial Hospital, Hsinchu, Taiwan
- TP 249 **A System Biology Approach for Identification of Biomarker Candidates for IgAN and TBMN via Proteomic Profiling of Human Urinary Exosomes;** Pyong-gon Moon¹; Jeong-Eun Lee¹; Sungyong You²; In-San Kim¹; Tae-Hwan Kwon¹; Chan-Duck Kim¹; Sun-Hee Park¹; Daehee Daehee²; Yong-Lim Kim¹; Moon-chang Baek¹; ¹Kyungpook Nat'l Univ., Daegu, South Korea; ²POSTECH, Pohang, South Korea
- TP 250 **Cholesterol and Dehydrocholesterols Analysis from Patients with the Smith-Lemli-Opitz Syndrome by Atmospheric Pressure Thermal Desorption Chemical Ionization Mass Spectrometry (APTDCI-MS);** Giuseppe Paglia¹; Oceania D'Apolito¹; Antonio Dello Russo²; Gaetano Corso¹; ¹Dept. Biomedical Sciences, Foggia, Italy; ²Dept of Biochemistry & Medical Biotechnology, Napoli, Italy
- TP 251 **A New Approach for Acute Clinical Toxicology Based on Ion Trap MSMS Library Search;** Roman Mylonas¹; Yann Mauron¹; Alexandre Masselot²; Olivier Philippe²; Pierre-Alain Binz^{1,2}; Veronique Viette^{3,4}; Marc Fathi³; Denis F Hochstrasser^{3,5}; Frederique Lisacek¹; Sebastian Goetz⁶; Birgit Schneider⁶; Jens Vagts⁶; Carsten Baessmann⁶; ¹Swiss Institute of Bioinformatics, Geneva, Switzerland; ²Geneva Bioinformatics (GeneBio), Geneva, Switzerland; ³Geneva University Hospital, Geneva, Switzerland; ⁴ADMed Foundation, La Chaux-de-Fonds, Switzerland; ⁵Swiss Center for Applied Human Toxicology, Geneva, Switzerland; ⁶Bruker Daltonik GmbH, Bremen, Germany
- TP 252 **Selective Detection of Polyethylene Glycol Based Laxatives in Children Stool;** Martin Sadilek¹; Kenneth Feldman^{2,3}; Karen F. Murray^{2,3}; Melissa Young³; Suzan Mazor^{2,3}; ¹University of Washington, Department of Chemistry, Seattle, WA; ²University of Washington, School of Medicine, Seattle, WA; ³Seattle Children's, Seattle, WA
- TP 253 **Precise Determination of Glomerular Filtration Rate by Iothalamate Clearance Using LC-MS/MS;** Jesse C. Seegmiller; Bradley E. Burns; John C. Lieske; Timothy S. Larson; *Mayo Clinic, Rochester, MN*
- TP 254 **Speciation Analysis of Gd-Based MRI Contrast Agents in Human Body Fluids;** Lena Telgmann¹; Jens Kuennemeyer¹; Faruk Tokmak²; Uwe Karst¹; ¹University of Münster, Münster, Germany; ²University of Bochum, Bochum, Germany
- TP 255 **Mass Spectrometry in Sports Drug Testing: Characterization and Detection of RYCALs – Endurance-Enhancing Ryanodine-Calstabin-Complex Stabilizers;** Mario Thevis¹; Simon Beuck¹; Andreas Thomas¹; Maxie Kohler¹; Mathias Schäfer²; Wilhelm Schänzer¹; ¹German Sport University, Cologne, Germany; ²University of Cologne, Cologne, Germany
- TP 256 **Quantitation of Heptidin in Body Fluids for Diagnosis and Monitoring of Iron Disorders;** Melvin CL Gay¹; Debbie Trinder^{2,3}; John K Olynik^{2,3}; Ian Mullaney¹; Robert Trengove¹; ¹Murdoch University, Murdoch, Australia; ²Western Australian Institute for Medical Research, Perth, Australia; ³University of Western Australia, Perth, Australia
- TP 257 **A Sensitive Proteomics Approach for the Determination of Carbohydrate Deficient Transferrin in Serum by Isotope Dilution Tandem Mass Spectrometry;** Coleman T Turgeon; H. Robert Bergen, III; Linda M Benson; Mark J Magera; John F O'Brien; Devin D Oglesbee; *Mayo Clinic College of Medicine, Rochester, MN*
- TP 258 **Urinary Biomarker Discovery for Early Diagnostics of Human Contrast Induced Kidney Injury Using 2-D DIGE Followed by MS Analyses;** Ling Wang³; Zhaohui Ni³; Jim M. Jia¹; Fuquan Yang²; Ran Zheng⁴; ¹KBI, Kunming, China; ²Institute of Biophysics, China Academy of Science, Beijing, China; ³Renji Hospital,

TUESDAY POSTERS

Jiao Tong Univ. School of Medicine, Shanghai, China;
⁴ICBR/UF, Gainesville, FL

- TP 259 **Automated SPE-LC/MS/MS Assay for Immunosuppressant Drugs from Whole Blood;** Kimberly Eaton¹; Kimberly Gamble²; Tony Brand³; M.p. George³; Ken Lewis¹; ¹OpAns, LLC, Durham, NC; ²MicroLiter Analytical Supplies, Inc., Suwanee, GA; ³Agilent Technologies, Raleigh, NC

**PROTEOMICS: PTM DETERMINATION (HISTONES),
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- TP 260 **Determination of Sirtuin Deacetylation Sites Using Biotinylation Combined with Mass Spectrometry;** Stephen Swatkoski; Poonam Bheda; Cynthia Wolberger; Robert J. Cotter; *Johns Hopkins University School of Medicine, Baltimore, Maryland*
- TP 261 **Mass Spectrometric Screening of Histone Modifications Uncovers Global Resistance Mechanism to Apoptosis in Yeast;** Neil L. Kelleher; Cong Wu; Lihua Jiang; Mingxi Li; Manjui V. Lee; *University of Illinois at Urbana-Champaign, Urbana, IL*
- TP 262 **Automated On-Line Sample Preparation for Profiling Changes in Histone Modifications Using a QTOF Mass Spectrometer;** Paul Drogaris¹; Eric Bonneil²; Christelle Pomies³; Kevin Killeen⁴; Pierre Thibault⁵; ¹Université de Montréal, Montréal, Canada; ²Université de Montréal, Montréal, QC; ³IRIC/University of Montreal, Montreal, QC; ⁴Agilent Laboratories, Santa Clara, CA; ⁵Univ. of Montreal, Montreal, QC
- TP 263 **Mapping the Post-Translational Modifications of Human RNA Pol II C-Terminal Domain;** William Drury¹; Christine Jelinek²; Luis A. Rojas¹; Robert J. Cotter³; Danny Reinberg^{1,1}; ¹NYU-SOM/HHMI, New York, NY; ²Johns Hopkins School of Medicine, Baltimore, MD; ³Middle Atlantic MS Laboratory, Baltimore, MD
- TP 264 **Identification and Quantitation of Messenger Ribonucleoprotein Complexes (mRNPs) in the Presence and Absence of Arginine Methylation;** Ambrosius Snijders; Guillaume Hautbergue; Stuart Wilson; Mark Dickman; *University of Sheffield, Sheffield, UK*
- TP 265 **Initial Characterization of Lysine Propionylation Pathway;** Yue Chen¹; Zhongyi Cheng¹; Yi Tang²; Sung Chan Kim¹; Wei Gu²; Yingming Zhao¹; ¹The University of Chicago, Chicago, IL; ²Columbia University, New York, NY
- TP 266 **Histone Post Translational Modifications Associated with Transcription;** Jessica R. Chapman¹; Kristie L. Rose¹; Klaas W. Mulder²; F.M.A. Richard van Schaik²; Jeffrey Shabanowitz¹; H.Th. Marc Timmers²; Donald F. Hunt¹; ¹University of Virginia, Charlottesville, VA; ²University Medical Centre-Utrecht, Utrecht, The Netherlands
- TP 267 **Hyperpropionylation of Histone H3 lysine 23 is Specific in U937 Cell Line;** Kangling Zhang¹; Yihui Lin²; Xuehui Song²; Agus Darmanto¹; Quoling Xu²; ¹Loma Linda University, Loma Linda, CA; ²Institute of biochem. & cell biol., Shanghai, China
- TP 268 **MS Identification of A Redox-dependent Pathway for Regulating Histone Deacetylase in Cardiac Myocytes;** Hong Li; Tong Liu; Tetsuro Ago; Wei Chen; Junichi Sadoshima; *UMDNJ, Newark, NJ*
- TP 269 **A Fast Screening Method for Detecting Difference in Post-Translational Modifications of Proteins by Bioinformatics and FTICR/ECD/MS/MS;** Frank Li;

Shenheng Guan; Feixia Chu; Raisa Talroze; Al Burlingame; *University of California San Francisco, San Francisco, CA*

- TP 270 **Improved Analysis of Histones Using a LTQ-Orbitrap with ETD and a Nanoacuity Chromatography System;** David A. Maltby; Shannon M Eliuk; A.I. Burlingame; *University of California, San Francisco, CA*
- TP 271 **Identification of Post-Translational Modifications on Nucleoplasmin from Xenopus laevis Oocytes Using High Resolution Front-End Electron Transfer Dissociation Mass Spectrometry;** Josh Nicklay¹; David Shechter²; Philip Compton¹; C. David Allis²; Donald F. Hunt¹; ¹University of Virginia, Charlottesville, VA; ²Rockefeller University, New York, NY
- TP 272 **Progress Towards the Human Chromatome;** Mariana D. Plazas-Mayorca; Nicolas L. Young; Benjamin A. Garcia; *Princeton University, Princeton, NJ*
- TP 273 **Combining ChIP Antibodies and Mass Spectrometry to Study Post-Translational Modifications on Histones;** Katherine Stamper¹; Robert J. Cotter²; ¹Johns Hopkins University, Baltimore, MD; ²Middle Atlantic MS Laboratory, Baltimore, MD

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- TP 274 **The Analytical Method to Find the Conditions of Coalescence Onset in FT-ICR;** Ivan Boldin; Eugene Nikolaev; *Institute for Energy Problems of Chemical Physics, Moscow, Russian Federation*
- TP 275 **Study on the Space-Charge Mediated Shift in Magnetron Frequency and its Utility for Quantitative Measurements in FT-ICR Mass Spectrometry;** Pavel N. Sagulenko^{1,2}; Alexander Yu. Agapov^{1,2}; Dmitry A. Tolmachev¹; Mikhail V. Gorshkov¹; *Institute for Energy Problems of Chemical Physics, Moscow, Russia; ²Moscow Institute of Physics and Technology, Dolgoprudny, Russia*
- TP 276 **Particle-in-Cell Algorithm Implemented on MIMD-Class Supercomputers for Simulating Ion Cloud Dynamics with Injection in the FT-ICR Cell and Sidekick;** Andriy Kharchenko¹; Gleb Vladimirov²; Eugene Nikolaev²; Ron Heeren¹; ¹FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands; ²Institute for Energy Problems of Chem. Physics, Moscow, Russia
- TP 277 **Particle-In-Cell Ion Trajectory Simulations To Model Observed FTICR-MS Space Charge Frequency Shifts;** Franklin E. Leach III¹; Jon Amster¹; Andriy Kharchenko²; Eugene Nikolaev³; Ron M.a. Heeren⁴; ¹University of Georgia, Athens, GA; ²FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands; ³The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; ⁴FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands
- TP 278 **Limits of FT-ICR MS Resolution and Dynamic Range from Supercomputer Modeling of Ion Cloud Motion in an ICR cell;** Eugene Nikolaev¹; Gleb Vladimirov¹; Ivan Boldin¹; Ron M.a. Heeren²; Chris Hendrickson³; Greg Blakney³; Alan G. Marshall⁴; ¹The Institute for Energy Problems of Chemical Phys, Moscow, Russian Federation; ²FOM Inst. Atomic/Molecular Phy, Amsterdam, Netherlands; ³National High Magnetic Field Laboratory, Tallahassee, FL; ⁴Ion Cyclotron Resonance Prog, Tallahassee, FL
- TP 279 **Exchange of Axial and Radial Kinetic Energy During Ion Transfer Through Multipole Ion Guides in a Strong Magnetic Field Gradient;** Steve Beu¹; Chris

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- Hendrickson²; Alan G. Marshall³; ¹*S C Beu Consulting, Austin, TX*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*; ³*Ion Cyclotron Resonance Prog, Tallahassee, FL*
- TP 280 **Low Cost Higher Frequency RF Power Supplies for Quadrupole Ion Guides in FT-ICR Instruments with External Ion Sources**; Jan E. Szulejko; Behrooz Zekavat; David LaBrecque; Touradj Solouki; *University of Maine, Orono, ME*
- TP 281 **Improved Broadband Phase Correction of Complex FT-ICR Mass Spectra: Baseline Roll and Apodization**; Feng Xian¹; Chris Hendrickson²; Greg T. Blakney³; Steve Beu⁴; Alan G. Marshall⁵; ¹*Department of Chemistry and Biochemistry, FSU, Tallahassee, FL*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*; ³*National ICR Program at NHMFL, Tallahassee, FL*; ⁴*S C Beu Consulting, Austin, TX*; ⁵*Ion Cyclotron Resonance Prog, Tallahassee, FL*
- TP 282 **Applications of a Compensated Trap to Top-Down Proteomics in FTMS**; Don L. Rempel; Adam Brustkern; Michael L. Gross; *Washington University, St Louis, MO*
- TP 283 **Cluster Ion Source Designed for 9.4 T FT-ICR Identification of Products of Mass-Selected Ion-Molecule Reactions**; Alan G. Marshall^{1,2}; Nathan K. Kaiser¹; Christopher L. Hendrickson^{1,2}; Paul W. Dunk²; Harold W. Kroto²; ¹*National High Magnetic Field Laboratory, Tallahassee, FL*; ²*Florida State University, Tallahassee, FL*
- TP 284 **Design and Performance of a Novel 9.4 Tesla FT-ICR Mass Spectrometer for Proteome and Petroleum Analysis**; Nathan K. Kaiser¹; John Paul Quinn¹; Gregory T. Blakney¹; Daniel G. McIntosh¹; Christopher L. Hendrickson^{1,2}; Alan G. Marshall^{1,2}; ¹*National High Magnetic Field Laboratory, Tallahassee, FL*; ²*Florida State University, Tallahassee, FL*
- TP 285 **A 5T Bench Top FT-ICR Instrument with Compact Cryogen-Free Superconducting Magnet System**; Alexander S. Misharin; Andrey N. Vilkov; Vladimir M. Doroshenko; *MassTech Inc., Columbia, MD*
- TP 286 **Advanced Data Acquisition Strategy for a 14.5 T Hybrid Linear Ion Trap Fourier Transform Ion Cyclotron Resonance Mass Spectrometer**; Greg T. Blakney¹; Chris Hendrickson^{1,2}; Alan G. Marshall^{1,2}; ¹*National ICR Program at NHMFL, Tallahassee, FL*; ²*Florida State University, Tallahassee, FL*
- TP 287 **High Resolution Broadband FTMS Data via Data Streaming for Complex Mixture Analysis**; Christopher Thompson¹; Steve Van Orden¹; Joe Meier¹; Christoph Gosteli²; Michael Schenkel²; ¹*Bruker Daltonics Inc., Billerica, MA*; ²*Bruker BioSpin, Fallanden, Switzerland*
- TP 288 **Precision Proteomics on Ultrahigh Resolving Power 12 and 15 Tesla FTICR Mass Spectrometers**; Yuri E.M. Van Der Burgt; Magnus Palmblad; André M. Deelder; *Leiden University Medical Ce, Leiden, Netherlands*
- TP 289 **Front-End Electron Transfer Dissociation: A Novel, Sub-Atmospheric, Electrical Discharge Ion Source**; Philip Compton; Jeffrey Shabanowitz; Donald F. Hunt; *University of Virginia, Charlottesville, VA*
- TP 290 **Separation of Isobaric Phosphopeptides by High Field Asymmetric Waveform Ion Mobility Spectrometry Confirmed by LTQ Orbitrap XL ETD Mass Spectrometry**; Yue Xuan¹; Andrew Creese²; Julie Horner³; Helen J. Cooper²; Thomas Moehring¹; ¹*ThermoFisherScientific, Bremen, Germany*; ²*School of Biosciences, University of Birmingham, Birmingham, UK*; ³*ThermoFisher Scientific, San Jose, CA*
- TP 291 **Simplified DREAMS Device Implemented on Bruker 7T Apex-Qe FTICR**; Dale Whittington¹; Ryan M. Danell²; Gary Kruppa³; Ross F. Lawrence¹; William N. Howald¹; David R. Goodlett¹; ¹*University of Washington, Seattle, WA*; ²*Danell Consulting, Greenville, NC*; ³*Bruker Daltonics Inc., New York, NY*
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- TP 292 **Analysis of Post-Blast Pipe Bomb Fragments Using DESI-Mass Spectrometry**; Joseph H Kennedy¹; John V Goodpaster²; Erica Lotspeich²; Justin Wiseman¹; ¹*Prosolia Inc, Indianapolis, IN*; ²*IUPUI, Indianapolis, IN*
- TP 293 **Direct Characterization of Complex Viscous Mixtures by Extractive Electrospray Ionization Mass Spectrometry**; Wai Siang Law¹; Huanwen Chen^{2,3}; JianHua Ding^{2,3}; Liang Zhu¹; Gerardo Gamez¹; Konstantin Chingin¹; Shuiping Yang³; Yulin Ren Ren³; Renato Zenobi¹; ¹*ETH Zurich, Zurich, Switzerland*; ²*East China Institute of Technology, Fuzhou, China*; ³*Jilin University, Changchun, China*
- TP 294 **In vivo Detection of Intramuscular Injected Ephedrine in Breath by EESI-MS**; Jianhua Ding^{1,2}; Haiwei Gu^{1,3}; Bin Hu¹; Zhuanzhang Wu¹; Yulin Ren²; Huanwen Chen^{1,2}; ¹*East China Institute of Technology, Fuzhou, P.R.China*; ²*Jilin University, Changchun, P.R.China*; ³*Validation Resources, LLC, Bend, OR*
- TP 295 **DESI-MS as a Tool for Obtaining Quick Answers to Practical Pharmaceutical Questions**; Laura Sharon¹; Peter M. Yehl¹; Peng Wang²; Hong Gao²; Margaret Figus²; Fanyu Meng²; Xiaoyi Gong²; ¹*Merck & Co., Inc., West Point, PA*; ²*Merck & Co., Inc, Rahway, NJ*
- TP 296 **Direct Analysis of Reversed-Phase HPTLC Separated Peptides from Protein Tryptic Digests Using a Surface Sampling Probe/ESI-MS System**; Joshua F. Emory¹; Matthew J. Walworth¹; Vilmos Kertesz¹; Gary J. Van Berkel¹; Michael Schulz²; Susanne Minarik²; ¹*Oak Ridge National Laboratory, Oak Ridge, TN*; ²*Merck, Darmstadt, Germany*
- TP 297 **Extractive Electrospray Ionization Ion Cyclotron Resonance Mass Spectrometry for Rapid Unambiguous Detection of Phthalates in Complex Matrices**; Huanwen Chen^{1,2}; Konstantin Chingin¹; Liang Zhu¹; Gerardo Gamez¹; Renato Zenobi¹; ¹*ETH Zürich, Zürich, Switzerland*; ²*East China Institute of Technology, FuZhou, China*
- TP 298 **Rapid Desorption Electrospray Ionization Using Hadamard Transform Time-of-Flight Mass Spectrometry**; Griffin K. Barbula; Matthew D. Robbins; Richard N. Zare; *Stanford University, Stanford, CA*
- TP 299 **DESI-MS of *Francisella tularensis* Inoculation Pathways**; Tamara Sibray¹; Richard Bowen²; John T. Belisle²; Franco Basile¹; ¹*University of Wyoming, Laramie, WY*; ²*Colorado State University, Fort Collins, CO*
- TP 300 **Novel Chromatographic Separations Using an Atmospheric Solids Analysis Probe (ASAP) Mass Spectrometry**; Richard G. McKay¹; Barbara S. Larsen²; Charles N. McEwen³; ¹*M&M Mass Spec Consulting LLC, Hockessin, DE*; ²*The DuPont Company, Wilmington, DE*; ³*Univ. of the Sciences in PA, Philadelphia, PA*

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- TP 301 **A Desorption Corona Beam Ionization Source for Direct Analysis of Samples from Surface;** Wenjian Sun; Xiaohui Yang; Junsheng Zhang; Tao Lin; Li Ding; *Shimadzu Research Laboratory (Shanghai), Shanghai, China*
- TP 302 **Open Probe – A Novel Method and Device for Ultra Fast Electron Ionization Mass Spectrometry Analysis;** Aviv Amirav; Marina Poliak; Alexander Gordin; *Tel-Aviv University, Tel-aviv, Israel*
- TP 303 **Characterization of Weathering-Induced Structural Changes in Anti-Oxidant Additives within Polymer-Based Surface Coatings by Mass Spectrometry;** Martin R.L. Paine¹; Philip Barker²; Stephen J Blanksby¹; ¹*University of Wollongong, Wollongong, Australia*; ²*BlueScope Steel Research, Wollongong, Australia*
- TP 304 **The Application of Low Temperature Plasma (LTP) Ambient Mass Spectrometry Ionization to Drugs of Abuse in Biological Matrices;** Ayanna Jackson¹; Juan F Garcia-reyes²; Jason D. Harper¹; Nicholas Charipar¹; R. Graham Cooks¹; ¹*Purdue University, West Lafayette, IN*; ²*university of Jaen, Jaen, Spain*
- TP 305 **Ionization Mechanism of Positive Ion-DART: A Transient Microenvironment Theory;** Liguo Song; Stephen C. Gibson; Deepak Bhandari; Kelsey D. Cook; John E. Bartmess; *University of Tennessee, Knoxville, TN*
- TP 306 **The Utilization of the Direct Analysis In Real Time Experiment Table (DART-ET) in a Pharmaceutical Development Environment;** Leah Buhler¹; Larry M. Mallis¹; Roy Helmy²; Peter Yehl¹; Xiaoyi Gong²; Timothy Rhodes²; ¹*Merck & Co., Inc, West Point, PA*; ²*Merck & Co., Inc., Rahway, NJ*
- TP 307 **Rapid Semi-Quantitative Mapping of Dispersed Caffeine Using an Autosampler/DART/TOFMS;** Andrew H. Grange; *U.S. EPA, Henderson, NV*
- TP 308 **Investigation of the Internal Energy Deposited During Direct Analysis in Real Time (DART) Mass Spectrometry;** Dana Hostetler¹; Glenn A Harris²; Facundo Fernandez³; ¹*Georgia Tech, Atlanta, GA*; ²*Georgia Institute of Technol, Atlanta, GA*; ³*Georgia Institute of Technology, Atlanta, GA*
- TP 309 **Studies of the Mechanism and Limitations of DART Ionization;** Julia Rummel; John R. Eyler; David H. Powell; *University of Florida, Gainesville, FL*
- TP 310 **Determination of Melamine and Cyanuric Acid in Dried Milk Using Direct Analysis in Real Time-Time-of-Flight Mass Spectrometry;** Lukas Vaclavik¹; Jana Hajšlova¹; Bert Popping²; ¹*ICT Prague, Prague, Czech Republic*; ²*Eurofins Scientific Group, Yorkshire, UK*
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- TP 311 **Development of High Performance TFA-Free Capillary and Nanoscale Protein Separations for LC-MS Protein Profiling;** Jia You; Christopher R. Gessner; Michael A. Freitas; *Ohio State University, Columbus, OH*
- TP 312 **Cross Platform Evaluation of a Static and Dynamic Range Proteomic Mixture Comparing Search Engines and Parameters;** Archer Smith Iv¹; Gregory J. Bowersock¹; Landon Wilson¹; Ray Moore II¹; Jennifer Busby²; Stephen Barnes¹; James Mobley¹; Matthew B. Renfrow¹; ¹*University of Alabama at Birmingham, Birmingham, AL*; ²*TSRI-Scripps Florida, Jupiter, FL*
- TP 313 **The Hunt for Human Plasma Biomarkers Using 55 cm LC Nano-Columns in Shotgun Proteomics;** Vilem Guryca; Sabine Kux van Geijtenbeek; Daniel Roeder; Maria Esther Ricci da Silva; Nikolaos Berntenis; Hans-Werner Lahm; Hanno Langen; Axel Ducret; *F.Hoffmann-La Roche (MML), Basel, Switzerland*
- TP 314 **A Comparative Analysis of Ubiquitinated Substrates by SCX and ZIC-HILIC Followed by RP-UPLC-MS/MS;** Geoffrey Smith; Sonja Hess; Raymond J. Deshaies; *Caltech, Pasadena, CA*
- TP 315 **Universal Hydrophobicity Scales and Peptide Retention Standards for Reversed-Phase HPLC in Proteomics Applications;** Oleg V. Krokhin; Michael Harder; Vic Spicer; *University of Manitoba, Winnipeg, Canada*
- TP 316 **Development of an On-Line Two-Dimensional LC-MS Method with Multiple Peak Trapping Capabilities for the Characterization of MABs;** Melissa Alvarez¹; Oleg Borisov²; Victor Ling¹; Guillaume Tremintin³; ¹*Genentech, Inc., So San Francisco, CA*; ²*Genentech, South San Francisco, CA*; ³*Dionex Corporation, Sunnyvale, CA*
- TP 317 **Determination of 12 Aminoglycosides in Swine Muscle by Liquid Chromatography with Tandem Mass Spectrometry;** Chae-mi Lim; Byung-hoon Cho; Hyun-Jeong Kwon; Su-Jeong Park; Gap-Su Jeong; *National Veterinary Research & Quarantine Service, Anyang, South Korea*
- TP 318 **A Simple and Rapid Analysis of Speciation of Selenium in Se-Enriched Rice and Green Tea by Foliar Enrichment Using HPLC-ICPMS;** Yong Fang^{1,2}; Yaofang Zhang¹; Qilin Chan¹; Qihui Hu²; Joseph A. Caruso¹; ¹*University of Cincinnati, Cincinnati, OH*; ²*Nanjing Agricultural University, Nanjing, Jiangsu, China*
- TP 319 **LC-MS/MS Identification of b-N-Methylamino-L-Alanine in Cyanobacteria;** Zdenek Spacil^{1,2}; Johan Eriksson¹; Leopold L. Ilag¹; ¹*Stockholm University, Stockholm, Sweden*; ²*Faculty of Pharmacy, Charles University in Prague, Hradec Kralove, Czech Republic*
- TP 320 **Screening of Botanical Extracts for Ligands to Quinone Reductase-2 Using Ultrafiltration LC-MS;** Xi Qiu¹; Yongsoo Choi¹; Hongjie Zhang¹; Yegao Chen²; Minghua Qiu³; Harry H.S. Fong¹; Richard B. Van Breemen¹; ¹*University of Illinois at Chicago, Chicago, IL*; ²*Yunnan Normal University, Yunnan, China P. R.*; ³*Chinese Academy of Sciences, Kunmin, China P. R.*
- TP 321 **Fine Analysis of Asian Lacquer tree Extracts (Urushiols) by High Performance Liquid Chromatography/Tandem Mass Spectrometry;** Su-Min Park; Yu-Kyung Jung; Jin San Kim; Ki-Jung Paeng; *Yonsei university, Wonju, South Korea*
- TP 322 **LC-APCI-MS/MS Analysis of Redox Status of Coenzymes CoQ9 and CoQ10 in Biological Samples as a Biomarker for Oxidative Stress;** Sergiu P. Paliu¹; Timothy J. Garrett¹; Christiaan Leeuwenburgh¹; Nigel A. Calcutt²; Peter W. Stacpoole¹; ¹*University of Florida, Gainesville, FL*; ²*University of California, San Diego, CA*
- TP 323 **Multipesticides Analysis of Water Samples by Direct Injection Using Ultra-Fast LC/MS/MS and Continuous Polarity Switching;** Detlev Schleuder¹; Jianru Stahl-Zeng¹; Jan Lembcke²; Wolfram seitz²; Schulz Wolfgang²; Walter Weber²; ¹*Applied Biosystems, Germany, Darmstadt, Germany*; ²*Landeswasserversorgung Langenau, Langenau, Germany*
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- TP 327 **An Improved Tryptic Peptide Mapping LC/MS Method Minimizes Digestion Induced Modifications in Proteins;** Da Ren; Gary Pipes; Dingjiang Liu; Liang-Yu Shih; Drew Nichols; Michael Treuheit; David Brems; Pavel Bondarenko; *AMGEN INC, Thousand Oaks, CA*
- TP 328 **Label free Comparative Analysis of FFPE Specimen for Biomarker Discovery;** Javad Nazarian; Yetrib Hathout; Tobey MacDonald; *Children's Natl. Medical Center, Washington, DC*
- TP 329 **Affinity-Enrichment Does, but Affinity-Depletion Does Not, Improve the Identification of Serum Proteins by 2D LC-MS/MS;** Wenbo Zhi; Meiyao Wang; Sharad Purohit; Jin-Xiong She; *Medical College of Ga, Augusta, GA*
- TP 330 **Electrophoretic Enrichment and Fractionation of Low Molecular Weight Proteins for Bottom-Up Proteomic Analysis;** Wes E Steiner; Benjamin Katz; Chuck Witkowski; Jeremy L. Norris; *Protein Discovery, Inc., Knoxville, TN*
- TP 331 **An SDS-PAGE-Based Sample Clean-up Method for LC-MS/MS Detection of Low Amounts of Protein in Complex Protein Mixtures Containing Contaminants;** Wenzhu Zhang; Elizabeth Heller; Nathaniel Heintz; Brian Chait; *The Rockefeller University, New York, NY*
- TP 332 **Assessing the Variability of Peptide Peak Areas in Online Pepsin Digestion;** Joomi Ahn¹; Martha Stapels¹; Keith Faden¹; John R. Engen²; ¹Waters Corporation, Milford, MA; ²Northeastern University, Boston, MA
- TP 333 **Identification of Multiple Sources of Partial Tryptic Peptides in LC-MS/MS Experiments and The Importance of Using Partial Trypsin Search Parameters;** Kaye D. Speicher; Peter Hembach; Thomas Beer; Hsin-yao Tang; David W. Speicher; *The Wistar Institute, Philadelphia, PA*
- TP 334 **Coomassie Stains: Choices and Concerns: An evaluation of ESI-MS Compatibility;** David Sumpton; Willy Vincent Bienvenut; *Beatson Inst. Cancer Res., Glasgow, UK*
- TP 335 **Application and Optimization of Various Phosphopeptide Enrichment Strategies for Selective Isolation and Enrichment of Sphingoid Base 1-Phosphates;** YouXun Jin²; YunHwa Shi²; Jun Young Kwak²; Hwan-Soo Yoo²; Yong-Moon Lee²; Hun-Young So¹; Yong-Hyeon Yim¹; ¹KRISS, Daejeon, South Korea; ²Chungbuk National Univ., Chongju, South Korea
- TP 336 **In-Depth Identification of Proteins and Modifications by Multi-Dimensional Protein Separation and LC-MS/MS and MRM Methods;** Manfred R. Raida; Rong Li; Kim Huey Ee; Rosalind Yc Tan; Gina YB Tan; Bernad PM Tham; Choon Keow Ng; *Experimental Therapeutics Ce, Singapore*
- TP 337 **Rapid In-Gel Digestion of Proteins Using Surface Acoustic Waves;** Sri H. Ramarathinam¹; Ketav P. Kulkarni²; Nicholas A. Williamson¹; James Friend³; Leslie Yeo³; Anthony W. Purcell¹; Patrick Perlmutter²;

¹Department of Biochemistry, University of Melbourne, Parkville, Australia; ²Department of Chemistry, Monash University, Clayton, Australia; ³Dept. of Mechanical Engineering, Monash University, Clayton, Australia

TP 338 **Systematical Optimization of LTQ-Orbitrap Platform for Protein Identification and Peptide Quantitation;** Ping Xu; Duc Duong; Junmin Peng; *Emory University, Atlanta, GA*

- TP 339 **Evaluating Peptide Adsorptive Loss to HPLC Autosampler Vials;** Lynn Spruce¹; Jessica Y. Lee¹; Todd M Greco^{1,2}; Steven L. Cohen¹; Steven H. Seeholzer¹; ¹Children's Hospital of Philadelphia, Philadelphia, PA; ²University of Pennsylvania, Philadelphia, PA
- TP 340 **Reproducing Peptide nano-LC/MS Data: Looking beyond the Sample;** Jason S Harrington¹; Anthony J. Makusky¹; Jeffrey A. Kowalak¹; Sanford P. Markey²; ¹NIH, Bethesda, MD; ²NIMH, NIH, Bethesda, MD
- TP 341 **Novel Strategy to Screen Various Chemical Modifications on a Target Peptide: Combination of Group-Specific Immunoaffinity Extraction and Mass Spectrometry;** Takaaki Goto; Shota Kojima; Seon Hwa Lee; Tomoyuki Oe; *Tohoku University, Sendai, Japan*
- TP 342 **Development of an On-Bead Digestion Procedure for Immunoprecipitated Proteins;** Matthew J Berberich¹; Dhaval Nanavati²; Anthony J. Makusky²; Brian Martin²; Detlef Vullhorst¹; Andres Buonanno¹; Sanford P. Markey²; ¹NICHD, NIH, Bethesda, MD; ²NIMH, NIH, Bethesda, MD
- TP 343 **Extraction of Activatable Cell Penetrating Peptides from Mouse Organs and Analysis with Orbitrap Mass Spectrometer;** Larry Gross^{1,2}; Tao Jiang^{1,2}; Emilia S. Olson³; Todd A. Aguilera¹; Mike Whitney¹; Jessica L. Crisp¹; Roger Y. Tsien^{1,2}; ¹UCSD, La Jolla, CA; ²Howard Hughes Medical Institute, La Jolla, CA; ³UCSD School of Medicine, La Jolla, CA

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- TP 345 **Comparison of Free Radical Initiated Peptide Sequencing (FRIPS) and Electron Capture Dissociation for Characterization of Modified Peptides;** Ashley Brant¹; Jason W Kieltyka²; Kristina Hakansson¹; ¹University of Michigan, Ann Arbor, MI; ²Abbott Laboratories, Abbott Park, IL
- TP 346 **Application of a Novel Site Selective N-Terminal Labeling Method on Peptide Sequencing;** Min Bian; Suping Zheng; Steve Becht; Xiaoya Ding; *PPD, Inc., Middleton, WI*
- TP 347 **Identification of the [14C]HKL-272 Covalent Binding Site on Human Serum Albumin Using In-Gel Tryptic Digestion and LC/MS Analysis;** Jianyao Wang¹; Lin Deng²; ¹Wyeth Pharmaceuticals, Collegeville, PA; ²Wyeth, Collegeville, PA
- TP 348 **TEMPO-Based FRIPS Approach for Gas-Phase Peptide Sequencing;** Minhee Lee; Minhyuck Kang; Bongjin Moon; Han Bin Oh; *Sogang University, Dept. of Chemistry, Seoul, South Korea*
- TP 349 **Role of Amino Acid Side Chains in Apparent Selective Ring Opening of Cyclic b5 Ions;** Sam Molesworth; Sandra M. Osburn; Stephanie Curtice;

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- Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*
- TP 350 **Structure and Fragmentation Pathways of Doubly-Protonated Pro-His-Xxx Tripeptides;** Bela Paizs¹; Michaela Knapp-Mohammady¹; Alex G. Harrison²; ¹DKFZ, Heidelberg, Heidelberg, Germany; ²University of Toronto, Toronto, ON
- TP 351 **Fragmentation Pathways of Non-Tryptic Peptides: Formation of the $b_{n-1}+OH$ Ion;** Irina Perdivara^{1,2}; Leesa Deterding¹; Michael Przybylski²; Kenneth B. Tomer¹; ¹NIEHS, Rtp, NC; ²Universitat Konstanz, Konstanz, GERMANY
- TP 352 **Experimental and Theoretical Investigation of the Influence of Specific Residues on Formation of b-Type Ions from Protonated Peptides;** Stephanie S. Curtice; Sandra M. Osburn; Sam Molesworth; Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*
- TP 353 **Predictions of Dominant Channels in Peptides Mass Spectra Using Density Functional Theory Calculations;** Oleg Obolensky; Yi-Kuo Yu; *National Center for Biotechnology Information, NLM, Bethesda, MD*
- TP 354 **A Systematic Study into Phosphopeptide Ionization and Fragmentation;** Teresa Allen-Michaud^{1,3}; Chao-Hung Chang²; Adam Profit^{1,2}; Emmanuel Chang^{1,2}; ¹York College/CUNY, Jamaica, NY; ²The Graduate School and University Center/CUNY, New York, NY; ³Queens College/CUNY, Flushing, NY
- TP 355 **Establishing the Mechanism for Dominant c-Ion Formation in Deprotonated C-Terminal Amide Peptides Using Collision-Induced Dissociation;** Samantha S. Bokatzian-Johnson; Carolyn J. Cassidy; *University of Alabama, Tuscaloosa, AL*
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- TP 357 **Gas-Phase Basicity Measurements of Singly- and Doubly-Charged bn Fragment Ions Using ESI/FT-ICR MS;** Behrooz Zekavat; Abdullah H. Al-fdeilat; Touradj Solouki; *University of Maine, Orono, ME*
- TP 358 **Intramolecular Proton Relay Revealed by Substituent Effect and Energy-Resolved Mass Spectrometry;** Xudong Yao; Pamela Ann Diego; Hui Jiang; *University of Connecticut, Storrs, CT*
- TP 359 **Fragmentation of Peptide Ions during Electrospray Ionization;** Yu Xia; He Wang; Marco Pazzi; Zheng Ouyang; R. Graham Cooks; *Purdue University, West Lafayette, IN*
- TP 360 **Fragmentation of Singly Protonated Ions via Interaction with Metastable Rare Gas Atoms;** Vadym Berkout; *MassTech, Inc., Columbia, MD*
- TP 361 **Liquid Chromatography - Electron Transfer Dissociation - Ion Mobility on a Quadrupole Time of Flight Mass Spectrometer;** Jeffery M Brown; Steven D Pringle; Iain D G Campuzano; Richard C Chapman; John B Hoyes; *WATERS, Manchester, UK*
- TP 362 **Simplifying Fragmentation Patterns of Multiply Charged Peptides by N-terminal Derivatization and Electron Transfer Collision Activated Dissociation;** James Madsen; Jared Shaw; Jennifer Brodbelt; *The University of Texas, Austin, TX*
- TP 363 **Abundant b Ion Formation in Electron Capture Dissociation of Supercharged Peptides;** Neil D Hershey; Anastasia Kalli; Kristina Hakansson; *University of Michigan, Ann Arbor, MI*
- TP 364 **New Improvements and Understandings of the In-Source Decay (ISD) of Peptides in MALDI-TOF Mass Spectrometry;** Kevin Demeure; Valerie Gabelica; Frederic Rosu; Loic Quinton; Edwin Depauw; *University of Liege, Liège, Belgium*
- TP 365 **Valence Parity for c/z Ions from ECD of Peptides: Effect of Enzyme Digestion, H⁺ Atom Transfer and Charge State;** Yuan Mao^{1,2}; Jeremiah Tipton¹; Greg T. Blakney¹; Chris Hendrickson^{1,2}; Alan G. Marshall^{1,2}; ¹National High Magnetic Field Laboratory, Tallahassee, FL; ²Florida State University, Tallahassee, FL
- TP 366 **Atmospheric Pressure Collection of Peptide fragments after Thermal Dissociation;** Livia S. Eberlin¹; Hao Chen²; R. Graham Cooks¹; ¹Purdue University, West Lafayette, IN; ²Ohio University, Athens, OH
- TP 367 **A Comparison of Tandem MS Search Algorithms Using Electron Transfer Dissociation Data;** Henrik Molina^{1,2}; Akhilesh Pandey²; Kumaran Kandasamy²; ¹Centre de Regulacio Genomica (CRG), Barcelona, Spain; ²The Johns Hopkins University, Baltimore, MD
- TP 368 **Activated-Ion ETD for Sequence Analysis of Peptides in Low Charge States;** Aaron Ledvina¹; Graeme McAlister¹; Myles Gardner²; Suncerae Smith²; James Madsen²; Jennifer Brodbelt²; Joshua J. Coon¹; ¹Univ of Wisconsin-Madison, Madison, WI; ²University of Texas - Austin, Austin, TX
- TP 369 **Implementation of Beam-Type CAD with Ion Trap Product Detection, on a Hybrid QLT-Orbitrap Mass Spectrometer; Large-Scale Comparisons to Resonant Excitation;** Graeme Mcalister¹; Doug Phanstiel²; M. Violet Lee³; Craig Wenger²; Joshua J. Coon⁴; ¹The University of Wisconsin, Madison, WI; ²University of Wisconsin, Madison, WI; ³University of Wisconsin-Madi, Madison, WI; ⁴Univ of Wisconsin-Madison, Madison, WI
- TP 370 **Comparison Of Ion Fragmentation Methods For Sequencing Phosphopeptides;** Robert Brown¹; Stephane Houel²; William Old¹; Katheryn Resing¹; ¹University Of Colorado, Boulder,; ²Howard Hughes Medical Instit, Boulder, CO
- TP 371 **Electron Capture Dissociation of Non-Covalent (12-crown-4)-Peptide Complex Ions;** Wai Yi Chan¹; Tak-wah Dominic Chan²; ¹The Chinese University of Hong Kong, Hong Kong SAR, China; ²The Chinese Univ. of Hong Kong, Hong Kong Sar, China
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- TP 373 **Rapid Mass Spectrometric Detection of Chemical Warfare Agents, Simulants, and Toxic Industrial Chemicals Using a Field-Portable GC-TMS;** Christopher R. Bowerbank; Tiffany C. Wirth; Patricia E. Oliphant; Joseph L. Oliphant; Edgar D. Lee; Douglas W. Later; *Torion Technologies Inc., American Fork, UT*
- TP 374 **On-Site Detection of Chemical Warfare Agents by Mass Spectrometry and Ion Mobility Spectrometry;** Yasuo Seto¹; Shintaro Kishi¹; Takeshi Ohmori¹; Mieko

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- TP 375 **High Throughput Desorption Electrospray Ionization Analysis of Chemical Warfare Agents in Liquids Using Tandem Mass Spectrometry and Ion Mobility Separation**; Paul A. D'Agostino; Claude L. Chenier; DRDC Suffield, Medicine Hat, Canada
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- TP 379 **Evidence for Sulfur Oxidation in the Perhydrolysis of the Chemical Warfare Agent VX**; Andrew M. McAnoy¹; J Williams¹; Stephen J Blanksby²; Martin R. L. Paine²; ¹Defence Science and Technology Organisation, Melbourne, Australia; ²University of Wollongong, Wollongong, Australia
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- TP 382 **Detection of Functional Anthrax Edema Factor in Human and Animal Plasma by Liquid Chromatography-Tandem Mass Spectrometry**; Elodie Duriez¹; Pierre L. Goossens²; Francois Becher¹; Eric Ezan¹; ¹CEA, Gif Sur Yvette, France; ²Institut Pasteur, Paris, France
- TP 383 **The Advantages of MS/MS Typing for Differentiating Between Close Neighbors**; Jane Razumovskaya; Appavu Sundaram; Seshu Gudlavalleti; Sergey Kurnosenko; Vladimir M. Doroshenko; Science and Engineering Services, Inc., Columbia, MD
- TP 384 **Evaluation of Mass-Spectrometry Based Proteomic Approach for Bacterial Identification and Classification Using Blinded Microbial Samples**; Rabih Jabbour¹; Jacek P. Dworzanski²; Samir Deshpande³; Charles H. Wick⁴; Michael F. Stanford⁴; Alan W. Zulich⁴; ¹SAIC INC., Apg, MD; ²SAIC, Bel Air, MD; ³Science & Technology Corporation, Edgewood, MD; ⁴Edgewood chemical biological Center, APG, MD
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- TP 387 **Vapor Detection at 1 ppt with Secondary Electrospray Ionization (SESI) and a Single Quadrupole MS**; Juan A. Sillero¹; Juan Rus¹; Juan Fernandez De La Mora²; ¹SEADM, Boecillo, Spain; ²Yale University - Mechanical Engineering Department, New Haven, CT
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- TP 388 **Strategies in Method Development of Rivastigmine and its Metabolite NAP226-90 in Human Plasma by Liquid Chromatography Tandem Mass Spectrometry**; Xuejun Peng; Amara Pinnawala; Rong Yi; Winnie Lui; Eliot Chung; Alison Pyner; Sarah Ostonal; Can Test Ltd, Burnaby, Canada
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- TP 390 **Determination of Low Concentration of Oxymorphone and 6β-Hydroxyoxymorphone in Human Plasma by LC-MS/MS**; Hongkun Liang; Crystal Nguyen; Hongzhan Chen; Mojdeh Vahid; Kristen Singleton; Jared Callan; Yongdong Zhu; Yuan-Shek Chen; Kumar Ramu; QPS, LLC, Newark, DE
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- TP 399 **Simultaneous Determination of Tolbutamide, Omeprazole, Midazolam and Dextromethorphan by LC-MS/MS – A High Throughput Approach to Evaluate Drug-Drug Interactions**; Wei Zhang¹; Futian Han¹; Ping Guo¹; Harry Zhao¹; Zhongping (John) Lin¹; Mike-Qingtao Huang²; Naidong Weng²; *Frontage Laboratories, Inc., Malvern, PA*; ²*Johnson & Johnson PRD, Raritan, NJ*
- TP 400 **Quantification of Itraconazole and Its Metabolite Hydroxyitraconazole in Human Plasma by LC-MS/MS**; Venkatraman Junnotula; Hongli Wang; Lina Tang; Angel Tseng; Yuwen Zhao; Jamie Zhao; Yuan-Shek Chen; Kumar Ramu; *QPS, LLC, Newark, DE*
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- TP 405 **Determination of Bicalutamide in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Jun-hwa Shim; Hwa Suk Kim; Seul Oh; Hyang Hee Yang; Won Seok Nam; Seon Jeong Kim; Seo Hyun Yoon; Kyung-Sang Yu; In-Jin Jang; *Seoul National University, Seoul, South Korea*
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- TP 408 **The Quantitative Analysis of Voriconazole in Human Plasma by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)**; Seo Hyun Yoon; Jun-hwa Shim; Hwa Suk Kim; Seul Oh; Hyang Hee Yang; Won Seok Nam; Seon Jeong Kim; Seon Jeong Kim; Kyung-Sang Yu; In-Jin Jang; *Seoul National University, Seoul, South Korea*
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- TP 411 **Pharmacokinetic Analysis of Di(2-ethylhexyl)phthalate (DEHP) and its Major Metabolites in Plasma and Urine using UPLC with ES/MS/MS**; Nathan C. Twaddle; Steven J. Moon; Luisa Camacho; K. Barry Delclos; Daniel R. Doerge; *NCTR/FDA, Jefferson, AR*
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- TP 413 **Metabolism and Pharmacokinetics of Oxazoles with anti-Tuberculosis Activity**; Yang Song; Valentina Petukhova; Larry. L. Klein; Richard B. Van Breemen; scott Franzblau; *university of Illinois, Chicago, IL*
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- TP 418 **Quantitation of Drug Candidates in Pharmacokinetic Studies Using High Resolution Accurate MS – A Different Approach for Bioanalysis**; Rena Zhang¹; Sean Yu²; Philip Tiller³; Suzie Yeh⁴; Elizabeth A. Mahan²; William Bart Emary⁵; *¹Merck & Co., Inc, West Point, PA*; *²Merck & Co., West Point, PA*; *³RMI*

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- laboratories, Collegeville, PA; ⁴Merck & Co., Inc., West Point, PA; ⁵Merck Research Labs, West Point, PA
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- TP 432 **A New Approach to Assessing Conformational Stability and Functional Competence of Protein Therapeutics using Mass Spectrometry**; Cedric Bobst¹; Rinat Abzalimov¹; Damian Houde²; Steven A. Berkowitz²; Rohin Mhatre²; Igor A. Kaltashov¹; ¹University of Massachusetts, Amherst, MA; ²Biogen Idec, Inc., Cambridge, MA
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- TP 438 **The Interaction of Myristoylated HIV Nef with N-Myristoyltransferase-1 as Determined by Hydrogen Exchange Mass Spectrometry**; Chris Morgan¹; Purushottam S. Narute²; Brian V. Miglionico¹; Thomas E. Smithgall²; John R. Engen¹; ¹Northeastern University, Boston, MA; ²University of Pittsburgh, Pittsburgh, PA
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- TP 443 **Dynamic Studies and Structural Delineation of Truncated Human Cardiac Troponin Using HDX;** Dev Kowlessur; Larry Tobacman; ¹University of Illinois, Chicago, IL
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- TP 447 **Analysis of Histone Dynamics in the Higher Order Folding of Nucleosome Arrays Using Hydrogen/Deuterium Exchange Coupled to Mass Spectrometry;** Tanya Panchenko¹; Sandya Ajith¹; Mike Resch²; Jeffrey C. Hansen²; Ben E. Black¹; ¹University of Pennsylvania, Philadelphia, PA; ²Colorado State University, Fort Collins, Colorado
- TP 448 **Structural Mass Spectrometry of the $\alpha\beta$ -Tubulin Dimer Supports a Revised Model of Microtubule Assembly;** Melissa J. Bennett¹; John Chik¹; Gordon Slys¹; Tyler Luchko²; Dan L. Sackett³; David Schriemer¹; ¹University of Calgary, Calgary, AB; ²Cross Cancer Institute, Edmonton, Canada; ³National Institutes of Health, Bethesda, MD
- TP 449 **Allosteric Effects in the Abl Kinase Upon Inhibitor Binding;** Roxana E. Iacob^{1,3}; Jianming Zhang²; Nathanael S. Gray²; John R. Engen^{1,3}; ¹Northeastern University, Boston, MA; ²Dana-Farber Cancer Institute, Harvard Medical, Boston, MA; ³Barnett Institute, Boston, MA
- TP 450 **Identification of an Allosteric Pathway in the Regulation of α -Isopropylmalate Synthase from Mycobacterium Tuberculosis by Solution-phase H/D Exchange FT-ICR MS;** Mark R. Emmett¹; Hui-Min Zhang¹; Patrick A. Frantom²; John S. Blanchard²; Alan G. Marshall¹; ¹Nat'l High Magnetic Field Lab/Florida State Univ., Tallahassee, FL; ²Albert Einstein College of Medicine, Bronx, NY
- TP 451 **Folding of the Protein Cex in Solution and in the Gas Phase Studied by Hydrogen/Deuterium Exchange;** Peran Terrier; D. J. Douglas; ¹University of British Columbia, Vancouver, BC
- TP 452 **Investigation of Transferrin/Transferrin Receptor Interaction by Hydrogen-Deuterium Exchange Mass Spectrometry (HDX MS);** Cedric Bobst¹; Anne B. Mason²; Igor A. Kaltashov¹; ¹University of Massachusetts, Amherst, MA; ²University of Vermont Medical School, Burlington, VT
- TP 453 **Study of the Conformation of Myoglobin Adsorbed on Nanoparticles with Hydrogen/Deuterium Exchange Mass Spectrometry;** Yaoling Long; David Barber; John R. Eyler; ¹University of Florida, Gainesville, FL
- TP 454 **Hydrogen/Deuterium Exchange Analysis of RXR-Rexinoid Interactions in the Presence and Absence of Coactivator GRIP-1;** LeeAnn J. Boerma¹; Gang Xia¹; Cheng Qui¹; Donald D. Muccio¹; Matthew B. Renfrow²; ¹UAB at Birmingham, Birmingham, AL; ²University of Alabama at Birmingham, Birmingham, AL
- TP 455 **Probing the Effects of GTP Hydrolysis State on the Conformation of RhoA Using HDX MS;** Madonna-Lily Choi; Michael P. Walsh; John K. Chik; ¹University of Calgary, Calgary, Canada
- TP 456 **Probing Host-Guest Complex Formation between Cyclodextrins and Pharmaceutical Drugs Using Hydrogen-Deuterium Exchange;** Adedamola Onipede; Christian Granados; Jon Robinson; Xiomara Soto; David Sierra; Dil Ramanathan; ¹Kean University, Union, NJ

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- TP 457 **ETD Dissociation of the Non-Covalent Complexes between Calmodulin and Dopamine or Adenosine A2A Receptor Epitopes;** Amina S. Woods¹; Sucharita Dutta²; Shelley N Jackson³; ¹NIDA IRP, NIH, Baltimore, MD; ²Thermo Fisher Scientific, San Jose, CA; ³NIDA-IRP, NIH, Baltimore, MD
- TP 458 **Identifying the Sites of Small Molecules and Amyloid Beta-Protein Noncovalent Interactions Using Top-Down Mass Spectrometry;** Eric Pang¹; David B. Teplow²; Joseph A. Loo¹; ¹UCLA, Los Angeles, CA; ²David Geffen School of Med, Los Angeles, CA
- TP 459 **Enhanced Stoichiometry Measurements of Heterogeneous sub-MDa Protein Assemblies by Tandem MS: Elucidation of Subunit Exchange Mechanism in GroEL;** Rinat Abzalimov¹; Sarah C. Wehri²; George H. Lorimer²; Igor A. Kaltashov¹; ¹University of Massachusetts, Amherst, MA; ²University of Maryland College Park, College Park, MD
- TP 460 **How Bacteria Defend Themselves Against Pathogens: The Structure and Topology of the Cascade Protein Complex Revealed by Macromolecular Mass Spectrometry;** Kristina Lorenzen¹; Esther Van Duijn¹; Arjan Barendregt¹; Stan Brouns²; Matthijs Jore²; John van der Oost²; Albert J.R. Heck¹; ¹Utrecht University, Utrecht, Netherlands; ²Wageningen University, Wageningen, Netherlands
- TP 461 **Mass Spectrometry Study of the Interaction Between Calmodulin And ER α 17p, a Peptide that Corresponds to the Estrogen Receptor α /Calmodulin-Binding Site;** Sandrine Voillard¹; Francoise Fournier¹; Carlos Afonso¹; Yves Jacquot¹; Guy Leclercq²; Jean-Claude Tabet¹; ¹University Paris VI (UPMC), Paris

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- Cedex 05, France; ²Institut Jules Bordet, Brussels, Belgium
- TP 462 **Probing the Solution Structure of TNF- α Homo- and Heterotrimers Before and After Complex Perturbation;** Eric Beil; Sheng-Jiun Sam Wu; George A. Heavner; Jennifer F. Nemeth; *Centocor R&D, Radnor, PA*
- TP 463 **Small Heat Shock Proteins (sHSPs) are Thermodynamically Regulated Molecular Chaperones with Polydisperse Substrate Binding Behaviour;** Florian Stengel¹; Alex J Painter¹; Andrew J Baldwin²; Nomalie Jaya³; Eman Basha³; Lewis E Kay²; Elizabeth Vierling³; Carol V Robinson¹; Justin LP Benesch¹; ¹University of Cambridge, Cambridge, UK; ²University of Toronto, Toronto, Canada; ³University of Arizona, Tucson, Arizona
- TP 464 **Application of CE-MS to the Determination of Autoinducer Inactivation Enzyme A-metal Stoichiometry;** Mehdi Moini¹; Selynda Garza²; ¹Texas State University, San Marcos, TX; ²Cedra Corp, Austin, TX
- TP 465 **Structures and Binding Energies of Noncovalent Complexes of Peptidomimetic Complexes of Protonated Nitrogen Bases with 18-Crown-6;** Yu Chen; Mary T. Rodgers; *Wayne State University, Detroit, MI*
- TP 466 **Investigation of Non-covalent Complexes Between Synthetic Polymers and Biomolecules Using Mass Spectrometry;** Danijela Smiljanic; Chrys Wesdemiotis; *The University of Akron, Akron, OH*
- TP 467 **Non-Covalent Interactions between the PEBP/RKIP Protein and Nucleotide Analogs;** Lucie Jaquillard¹; Guillaume Gabant¹; Françoise Schoentgen²; Luigi Agrofoglio³; Martine Cadene¹; ¹CBM CNRS UPR4301 (INC) Rue Charles Sadron, Orléans, France; ²IMPMC, Université de Paris 6, Paris, France; ³ICOA UMR6005 Université d'Orléans, Orléans, France
- TP 468 **Comprehensive Analysis of the TRAP-Anti-TRAP Complex by ESI-MS and X-Ray Crystallography;** Satoko Akashi¹; Masahiro Watanabe¹; Jonathan G. Hedde^{1,2}; Satoru Unzai¹; Sam-Yong Park¹; Jeremy R. H. Tame¹; ¹Yokohama City University, Yokohama, Kanagawa, Japan; ²Global Edge Inst., Tokyo Institute of Technology, Yokohama, Japan
- TP 469 **Withdrawn**
- TP 470 **Non-Covalent Interactions between Food-Derived Proteins and Polyphenols Assessed by Ultra-Filtration and Mass Spectrometry – a Matter of Bioavailability and Perception;** Kornel Nagy; Marie-Claude Courtet-Compondu; Martin Kussmann; *Nestle Research Center, Lausanne 26, Switzerland*
- TP 471 **CCR2 Di-Sulfated N-Terminal Peptide and Arixtra Bind Competitively to MCP-1/CCL2;** Connie Jen; Julie A. Leary; *UC Davis, Davis, CA*
- TP 472 **Characterization and Structure Elucidation by FT-ICR-MSMS and NMR of a Protein-Complex Contaminant Produced from a 96 Well-Plate Cover Adhesive;** Marshall M. Siegel; Xidong Feng; Franklin Moy; Walter Massefski; Brooke Swalm; Mehul Patel; Lee Jennings; *Wyeth Research, Pearl River, NY*
- TP 473 **Spatially Ordered Surfactant Assemblies in Gas Phase : Bis(2-ethylhexyl)sulfosuccinate-Alkaline Metal Ion Aggregate;** Gianluca Giorgi¹; Vincenzo Turco Liveri²; ¹University of Siena, Siena, Italy; ²University of Palermo, Palermo, Italy
- TP 474 **Solution-Phase Chelators for the Suppression of Nonspecific Metal-Protein Interactions in ESI-MS;** Jingxi Pan; Lars Konermann; *Univ. of Western Ontario, London, ON*
- TP 475 **Quantitating Zinc Deposition in the ESI Source during Zinc-Peptide Analysis;** Haritha Mattapalli; Colin S. Burns; Allison S. Danell; *East Carolina University, Greenville, NC*
- TP 476 **Energy and Entropy Effects in the Dissociation of Non-Covalent Ionic Polymer/Substrate Complexes;** Eric Martineau; Abdulrahman Alhazmi; Justin Renaud; Paul Michael Mayer; *University of Ottawa, Ottawa, Canada*
- TP 477 **Monitoring Polymer Growth in the Interior of a Protein-Cage and Overcoming Challenges in Assigning Charge States to Native-Spray Mass Spectra;** Lars Liepold; Luke Oltrogge; Joynal Abedin; Peter Suci; Mark Young; Trevor Douglas; *Montana State University, Bozeman, MT*
- TP 478 **From Metal Binding to Nanoparticle Formation: Monitoring Biomimetic Iron Oxide Synthesis within Protein Cages Using Mass Spectrometry;** Sebyung Kang^{1,2}; Craig C. Jolley^{1,2}; Lars O. Liepold^{1,2}; Mark Young^{1,2}; Trevor Douglas^{1,2}; ¹Montana State University, Bozeman, MT; ²Center for BioInspired Nanomaterials, Bozeman, MT
- TP 479 **Why do Mass Spectrometric Measurements of Noncovalent Binding Constants Give Accurate Results?** Renato Zenobi¹; Matthias C Jecklin¹; Rui Wang¹; David Touboul²; ¹ETH Zurich, Zurich, Switzerland; ²CNRS, Gif-sur-Yvette, France
- TP 480 **Determination of Protein-Ligand Binding Constants Using Mass Spectrometry and Validation Using Surface Plasmon Resonance and Isothermal Titration Calorimetry;** Matthias Jecklin¹; Stefan Schauer²; Christoph Dumelin³; Renato Zenobi⁴; ¹ETH Zurich, Zurich, Switzerland; ²Functional Genomics Center Zurich, Zurich, Switzerland; ³Philochem AG, Zurich, Switzerland; ⁴ETH Zurich, Zurich, Switzerland
- TP 481 **Determination of Dimerization Constants of CH3-CH3 Interactions in IgG4 Antibodies by Native Mass Spectrometry;** Rebecca J. Rose¹; Aran F. Labrijn²; Ewald T.J. van den Bremer²; Janine Schuurman²; Patrick H.C. van Berkel²; Paul W.H.I. Parren²; Albert J.R. Heck¹; ¹Utrecht University, Utrecht, Netherlands; ²Genmab, Utrecht, Netherlands
- TP 482 **Mass spectrometry Contribution for Stability Constants Measurement of Protein/Protein Complexes;** Aurélie Mème¹; Peran Terrier¹; Frank Hannemann²; Rita Bernhardt²; Hélène Nierengarten¹; Noelle Potier¹; Emmanuelle Leize-Wagner¹; ¹LDSM2 - Institut de Chimie-CNRS-ULP, Strasbourg, France; ²Biochemie Universität des Saarlandes, Saarbrücken, Germany
- TP 483 **Imaging of Noncovalent Complexes by MALDI-MS;** Shelley N Jackson¹; Amina S. Woods²; ¹NIDA-IRP, NIH, Baltimore, MD; ²NIDA IRP, NIH, Baltimore, MD
- TP 484 **Analysis of Non-covalent Chitinase-Chito-Oligosaccharide Complexes by Use of Nano-ESI and IR-MALDI Mass Spectrometry;** Anne Line Norberg¹; Anette Israelsen Dybvik²; Veronika Schute³; Michael Mormann³; Jens Soltwisch³; Klaus Dreisewerd³; Stefan Berkenkamp⁴; Jasna Peter-Katalinic³; Kjell Morten Vårum²; Vincent G. H. Eijssink¹; Morten Sørli¹; ¹Norwegian University of Life Sciences, Aas, Norway; ²Norwegian University of Science and Technology,

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- Trondheim, Norway; ³University of Muenster, Muenster, Germany; ⁴Sequenom GmbH, Hamburg, Germany
- TP 485 **Noncovalent Interactions between Polyethyleneimine and Cibacron Blue 3GA Studied by Mass Spectrometry;** Ömür Celikbıçak^{1,2}; Bekir Salih²; Chrys Wesdemiotis¹; ¹The University of Akron, Akron, OH; ²Hacettepe University, Ankara, Turkey
- TP 486 **Characterization of Binding Sites of Insulin and IGF-2 for a Genome-Inspired DNA Binding Ligand by MALDI-TOF-Mass Spectrometry;** Junfeng Xiao; Dmitri Zagorevski; Linda McGown; Rensselaer Polytechnic Institute, Troy, NY

PEPTIDES: QUANTITATION – APPLICATIONS, 487 - 513

- TP 487 **Novel Aspects of Quantitation of Immunogenic Gluten Peptides by LC/MS/MS;** Jennifer A. Voyksner¹; Robert D. Voyksner¹; Chaitan Khosla²; James Jorgenson³; ¹LCMS Limited, Durham, NC; ²Stanford University, Stanford, CA; ³University of North Carolina at Chapel Hill, Chapel Hill, NC
- TP 488 **Quantification of Oxidative Modification in Hemoglobin Using iTRAQ/Isobaric Tags and Tandem Mass Spectrometry;** Tatiana Pimenova¹; Claudia P. Pereira²; Peter M. Gehrig³; Dominik J. Schaefer²; Renato Zenobi¹; ¹ETH Zurich, Zurich, Switzerland; ²University of Zurich, Zurich, Switzerland; ³Functional Genomics Center, Zurich, Switzerland
- TP 489 **High Sensitive Simultaneous Quantification Method of Hepcidin-20, 22, and -25 in Human Serum by LC/MS/MS;** Naoaki Murao; Hideyuki Yasuno; Yasushi Shimonaka; Masaki Ishigai; Chugai Pharmaceutical Co., Ltd., Gotemba, Japan
- TP 490 **Stable Isotope Free Direct MALDI-MS Quantitation of Beta Defensin 2 Regulated by TLR Activation in Chicken Heterophils;** Lakshmi Kannan¹; Rohana Liyanage¹; Narayan C Rath²; Jackson O. Lay¹; ¹University of Arkansas, Fayetteville, AR; ²PPPSRU, ARS, USDA, Fayetteville, AR
- TP 491 **Identification and Measurement of Pituitary Peptides during Development;** Adriana Bora; Lori Raetzman; Jonathan Sweedler; University of Illinois, Urbana, IL
- TP 492 **Quantification of NMDA Receptor Binding Proteins in Normal and Schizophrenic Human Brain Tissue;** Eugene Ciccimaro¹; Mark Szewc¹; Mark Sanders¹; Chang-gyu Hahn²; Matthew L Macdonald²; ¹Thermo Fisher Scientific, Somerset, NJ; ²University of Pennsylvania, Philadelphia, PA
- TP 493 **Quantitation of Exenatide in Human Plasma Using LC-MS/MS/MS (LC-MS³) on a Linear Q-Trap API-5500 System;** Yan Xu; John-Paul Gutierrez; Tian-sheng Lu; Haiqing Ding; Xiuying Chen; Kristin Miller; Yong-Xi Li; Medpace Bioanalytical Laboratories, Cincinnati, OH
- TP 494 **Quantitation of Formaldehyde-Hemoglobin Adducts;** Maria Ospina; Adrienne K. Barry; Hubert Vesper; Centers for Disease Control & Prevention, Atlanta, GA
- TP 495 **Measuring Acrylamide-Hemoglobin Adducts by LC/MS/MS;** Adrienne K. Barry; Maria Ospina; Hubert Vesper; Centers for Disease Control Prevention, Atlanta, GA
- TP 496 **Increased α -Synuclein 3-Nitrotyrosine Levels at Tyrosine 39 in a Parkinson's Disease Model;** Steven R. Danielson; Jason Held; May Oo; Birgit Schilling; Bradford W. Gibson; Julie K. Andersen; Buck Institute for Age Research, Novato, CA
- TP 497 **Quantitative Peptidomic Analysis of Peptide Amidation in Mouse Pituitary with Liquid**

- Chromatography-Mass Spectrometry;** Ping Yin¹; Suresh P. Annangudi¹; Danielle Bousquet-Moore²; Eipper A. Betty²; Richard E. Mains²; Jonathan V. Sweedler¹; ¹University of Illinois, Urbana, IL; ²University of Connecticut Health Center, Farmington, CT
- TP 498 **Mass Spectrometry-Based Quantification of Acrolein-Modified Thiol-Containing Peptides in an *in vivo* Model of Oxidative Stress;** Jianyong Wu; Claudia Maier; Oregon State University, Corvallis, OR
- TP 499 **Development of the Plant Signaling Peptides Discovery Platform Using Mass Spectrometry;** Ying Lan Chen^{1,2}; Mei-chun Tseng³; Yet-ran Chen^{1,2}; ¹Agricultural Biotechnology Research Center, Academia, Taipei, Taiwan; ²National Taiwan Ocean University, Keelung City, taiwan; ³Institute of Chemistry, Academia Sinica, Taipei, Taiwan
- TP 500 **A MRM-based Mass Spectrometry Method for Optimization of Protein Expression to Increase Biofuel Production in *E. coli*;** Christopher J. Petzold; Alyssa M. Redding; Tanveer S. Batth; Farnaz F. Nowrooz; Aindrila Mukhopadhyay; JBEI, Lawrence Berkeley National Laboratory, Emeryville, CA
- TP 501 **LC/MS/MS Analysis of Murine Fibrinopeptide A in Lung Tissue : a Candidate Biomarker for Pulmonary Fibrosis;** Joe Palandra; Theodore Baginski; Sharon Rouw; Josef Ozer; Dean J Welsch; Pfizer, Chesterfield, MO
- TP 502 **The Quantification of Urocortin 2, a Large Synthetic Peptide, from Rat Plasma by UPLC/MS/MS;** Don Laudicina; Liping Jin; Ajay Madan; Haig Bozigian; Kayvon Jalali; Neurocrine Biosciences, San Diego, CA
- TP 503 **18O/16O Labeling for Tracking Therapeutic Protein Primary Structure Modifications;** Xue Li; Tung Chau; Qiang Qin; Amgen Inc, Longmont, CO
- TP 504 **Evaluation of Novel Front-End Technologies to Facilitate the Study of BNP-32 by High Performance Mass Spectrometry;** Christopher M. Shuford¹; Genna L. Andrews¹; D. Keith Williams, Jr. ¹; John C. Burnett, Jr. ²; Adam M. Hawkrig¹; David C. Muddiman¹; ¹N.C. State University, Raleigh, NC; ²Mayo Clinic College of Medicine, Rochester, MN
- TP 505 **Detection of Peanut, Milk, Egg and Wheat Allergens by LC-MS/MS: Towards a Multi-Allergen Assay for Major Allergens in Food;** Catherine S Lane¹; Phil J Jackson¹; Donna Potts¹; Jianru Stahl-zeng¹; Antonio Serna¹; Bert Popping²; Stephen J. Lock¹; ¹Applied Biosystems, Warrington, UK; ²Eurofins, Pocklington, UK
- TP 506 **Quantitative Analysis of N –and C-Terminal Phosphorylation of FRS-2 by Immuno-Enrichment and LC-MS/MS – Method-Validation;** Stephan Bek; Francois Legay; Denis Herzog; Novartis, Basel, Switzerland
- TP 507 **Comparing the Levels of Endogenous Peptides Using Isotopic Labels and Mass Spectrometry;** Fang Xie¹; Jonathan Sweedler²; ¹University of Illinois at Urbana-Champaign, Urbana, IL; ²University of Illinois, Urbana, IL
- TP 508 **Quantitative Determination of Relative Concentrations of the Amyloid-Beta Peptide with Aspartic Acid in Different Isomeric Forms;** Igor Popov^{1,2}; Maria Indevkina³; Sergey Kozin^{2,3}; Alexey Kononikhin^{1,4}; Oleg Kharybin²; Alexander Makarov³; Alexander Archakov²; Eugene Nikolaev^{1,2}; ¹Emanuel Institute of Biochemical Physics RAS, Moscow, Russia;

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- ²Orekhovich Institute of Biomedical Chemistry RAMS, Moscow, Russia; ³Engelhardt Institute of Molecular Biology, Moscow, Russia; ⁴Institute for Energy Problems of Chemical Physics, Moscow, Russia
- TP 509 **The Grb2ome: Development of a Robust & Quantitative LC-On-Chip sMRM Assay for Proteins Associated with Human Grb2;** Lorne E. B. Taylor¹; Nicolas Bisson¹; Andrew James¹; Brett Larsen¹; J. Bryce Young³; Nicole Hebert³; Stephen A Tate²; Tony Pawson¹; ¹Samuel Lunenfeld Research Institute, Toronto, Canada; ²MDS Sciex, Concord, ON; ³Eksigent Technologies, Dublin, CA
- TP 510 **Quantitating the Cellular Response to DNA Double Strand Breaks through the MRN Complex;** Andrea M De Santis; Philip Compton; Jeffrey Shabanowitz; Patrick Concannon; Donald F. Hunt; University of Virginia, Charlottesville, VA
- TP 511 **Quantification of Antigenic Components in Influenza Vaccines by Isotope Dilution Bottom Up Proteomics;** John R. Barr; Tracie Williams; Jessica Norrgran; Carrie L Pierce; Adrian R Woolfitt; Maria I Solano; James Stevens; Reuben O Donis; James L Pirkle; CDC, Atlanta, GA
- TP 512 **Quantitating Stress-Activated Changes of Gene Expression and Protein Abundance in *Saccharomyces cerevisiae*;** M. Violet Lee; Scott E. Topper; Audrey P. Gasch; Joshua J. Coon; University of Wisconsin-Madison, Madison, WI
- TP 513 **Measurement of Protein Abundance in Mouse and Rat Organs;** Martha Stapels¹; Jim Langridge¹; Chelsea Piper²; An Zhou²; ¹Waters Corporation, Milford, MA; ²Legacy Research, Portland, OR
- PROTEIN GLYCOPROTEIN, 514 - 531**
- TP 514 **Defining IgA1 O-glycan Heterogeneity by Use of ECD and IgA1 Specific Proteases;** Kazuo Takahashi; Stephanie B. Wall; Archer Smith IV; Hitoshi Suzuki; Stacy Hall; Jiri Mestecky; Bruce A. Julian; Jan Novak; Matthew B. Renfrow; University of Alabama at Birmingham, Birmingham, AL
- TP 515 **N-glycosylation Microheterogeneity and Site Occupancy of an Asn-X-Cys Sequon in Plasma-Derived and Recombinant Protein C;** Geun-cheol Gil¹; Kevin Van Cott²; William H. Velander^{2,3}; ¹U. of Nebraska-Lincoln, Lincoln, NE; ²University of Nebraska, Lincoln, NE; ³Progenetics LLC, Blacksburg, VA
- TP 516 **Proteolytic *Clostridium botulinum*: Combined mass Spectrometry and Microarray analyses of Diversity of Flagellar Glycosylation;** Susan Twine¹; Luc Tessier¹; Michael Peck²; Catherine Paul^{1,3}; John Austin³; Susan Logan¹; Andrew Carter²; John F. Kelly⁴; ¹National Research Council, Ottawa, Canada; ²Institute of Food Research, Norwich, UK; ³Health Canada, Ottawa, ON; ⁴National Research Council of Canada, Ottawa, ON
- TP 517 **Microbial Glycosylation: The Outer Surface of the Archaeon *Methanosarcina mazei*;** Deborah R. Franco¹; A. Jimmy Ytterberg¹; Pinmanee Boonthueung¹; Unmi Kim¹; Patricia A. Denny²; Paul C. Denny²; Joseph A. Loo¹; Robert P. Gunsalus¹; Rachel R. Ogorzalek Loo¹; ¹University of California, Los Angeles, CA; ²University of Southern California, Los Angeles, CA
- TP 518 **Identification and Quantitation of Phosphorylated and O-GlcNAcylated Proteins Associated with Mitotic Spindles and Midbodies during Cytokinesis (Part A);** Chad Slawson¹; Zihao Wang¹; Namrata Udeshi²; Philip Compton²; Jeffrey Shabanowitz²; Donald F. Hunt²; Gerald W. Hart¹; ¹Johns Hopkins School of Medicine, Baltimore, MD; ²University of Virginia, Charlottesville, VA
- TP 519 **Sialylation and Metastasis: A Biological Interplay;** Giuseppe Palmisano; Rikke Leth-Larsen; Martin Rossel Larsen; Southern University of Denmark, Odense, Denmark
- TP 520 **Glycoproteomic Analysis of Zebrafish Embryos by Novel Shotgun LC-MS/MS Approaches;** Chia-wei Lin¹; Sz-wei Wu^{1,2}; Kay-hooi Khoo^{1,2}; ¹Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan; ²NRPGM Core facilities, Taipei, TAIWAN
- TP 521 **N-Linked Glycosylation Profiling and Comparisons of Five *Saccharomyces cerevisiae* Strains Using Label-Free and High Resolution Data Acquisition;** Michael R. Hoopmann; Edward J. Hsieh; Michael J. Maccoss; University of Washington, Seattle, WA
- TP 522 **Mass Spectroscopic Characterization of Glycosylation in the Immune Adherence Receptor CD35;** Thomas J. Allen¹; Haowei Song¹; Richard Hauhart¹; John P. Atkinson¹; John Turk¹; Jan Crowley²; ¹Washington University School of Medicine, St. Louis, MO; ²Washington University, St. Louis, MO
- TP 523 **Isolation and Glycosylation Profile of Prostate Specific Antigen (PSA) from Urine;** Lewis K. Pannell; Sharon D Rose; Tapas Manna; Lalita A Shevde; Mitchell Cancer Institute, Mobile, AL
- TP 524 **Rapid Simultaneous Detection and Quantification of Allergenic Proteins Including Posttranslational Modification in Dietetic Food by Using Tandem LC/MS/MS;** Marco Euler¹; Jianru Stahl-Zeng²; Marko Mank¹; Gilda Georgi¹; Bernd Stahl¹; ¹Danone Research Centre for Specialised Nutrition, Friedrichsdorf, Germany; ²Applied Biosystems, Darmstadt, Germany
- TP 525 **Proteomic Techniques for Micro-Determination of Tissue-Derived Proteoglycans, Bikunin and Decorin;** Tatiana Laremore¹; Rick T. Owens²; Dmitri Zagorevski¹; Franklin E. Leach III³; Jon Amster³; Robert J. Linhardt¹; ¹Rensselaer Polytechnic Institute, Troy, NY; ²LifeCell Corporation, Branchburg, NJ; ³University of Georgia, Athens, GA
- TP 526 **Systematic Identification of Glyco-Alteration in a Glycoprotein Using Multiple Glycan Profiling Tools;** Hiromi Ito¹; Atsushi Kuno¹; Hiromichi Sawaki¹; Maki Sogabe¹; Hidenori Ozaki¹; Yasuhiro Tanaka²; Masashi Mizokami²; Jun-ichi Shoda³; Takashi Angata¹; Takashi Sato¹; Jun Hirabayashi¹; Yuzuru Ikehara¹; Hisashi Narimatsu¹; ¹RCMG, AIST, Tsukuba, Japan; ²Nagoya City University, Nagoya, Japan; ³University of Tsukuba, Tsukuba, Japan
- TP 527 **Structural Study of Non-Enzymatic Glycation in Human Serum Albumin;** Zheling Zhang¹; Malwina Huzarska¹; Jeremiah Tipton²; Mark R. Emmett³; Alan G. Marshall⁴; Nicolas Polfer¹; ¹University of Florida, Gainesville, FL; ²NHMFLL, Tallahassee, FL; ³Nat'l High Magnetic Field Lab, Tallahassee, FL; ⁴Ion Cyclotron Resonance Prog, Tallahassee, FL
- TP 528 **Proteomic and Functional Characterisation of the Key Adipocytokine, Adiponectin;** Michelle Colgrave¹; Ayanthi Richards²; Alun Jones³; Elaine Preston⁴; Donna Wilks⁴; Greg Cooney⁴; Jon P. Whitehead²; ¹CSIRO, St Lucia, Australia; ²Diamantina Institute, Brisbane, Australia; ³University of Queensland, Brisbane, Australia; ⁴Garvan Institute of Medical Research, Sydney, Australia

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- TP 529 **Characterization of Group 1 Grass Pollen Allergens using High Resolution / High Mass Accuracy Mass Spectrometry;** Francois Fenaile¹; Emmanuel Nony²; Henri Chabre²; Thierry Batard²; Philippe Moingeon²; Eric Ezan¹; ¹CEA Saclay, DSV/iBiTec-S/SPI/LEMM, Gif Sur Yvette, France; ²Stallergenes SA, Antony, France
- TP 530 **Quantifying N-Glycosylation Distribution in Therapeutic Recombinant IgG Using MRM Strategies and Triple Quadrupole Linear Ion Trap MS Technology;** Jenny Albanese¹; Christie L Hunter²; Carmen Fernández-Metzler³; ¹Applied Biosystems, South Lake Tahoe, CA; ²Applied Biosystems, Foster City, CA; ³Merck and Co., West Point, PA
- TP 531 **Facile Isolation of Glycopeptides from Proteolytic Peptide Mixtures Using Custom-Made Cellulose-based Separation Cartridges;** Sergei Snovidia; Ed Bodnar; Helene Perreault; University of Manitoba, Winnipeg, Canada

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- TP 532 **A Target Discovery Platform for Identifying Breast Cancer-Associated MicroRNA Targets Utilizing Quantitative Proteomics;** Nicholas W. Bateman^{1,2}; Brian L Hood^{1,2}; Thomas P. Conrads^{1,2}; ¹Department of Pharmacology & Chemical Biology, Pittsburgh, PA; ²Univ. of Pittsburgh Cancer Institute, Pittsburgh, PA
- TP 533 **Global Analysis of the Yeast Osmotic Stress Response Using High Resolution Mass Spectrometry Based Quantitative Proteomics;** Boumediene Soufi¹; Christian Dahl Kelstrup¹; Tobias C. Walther²; Florian Fröhlich²; Jesper V. Olsen¹; ¹Department of Proteomics and Signal Transduction; Martinsried, Germany; ²Organelle Architecture and Dynamics, Martinsried, Germany
- TP 534 **Comparative Transcriptomic and Proteomic Profiling for Analysis of Cellular Responses to Oxidative Stress;** Michael W. Schmidt²; Shuangding Wu¹; Khaterah Motamedchaboki¹; Dieter A. Wolf¹; Laurence M. Brill¹; ¹Burnham Instit for Med Res, La Jolla, CA; ²Tumitek LLC, Encinitas, CA
- TP 535 **Cataloguing the Drosophila Melanogaster Interactome by Parallel Affinity Purification and MS Analysis of Protein Complexes;** Johanna Rees¹; Irina Armean¹; Nick Lowe¹; Edward Ryder²; Daniel StJohnston¹; Kathryn S Lilley¹; ¹University of Cambridge, Cambridge, UK; ²Sanger Center, Cambridge, UK
- TP 536 **Reducing Tissue Heterogeneity for the Specific Proteomic Analysis of Proximal Convoluted Tubule Apical Membranes;** Scott Walmsley¹; Corey Broeckling^{1,2}; Jessica Prenni^{1,2}; Norman Curthoys¹; ¹Colorado State University, Fort Collins, CO; ²Proteomics and Metabolomics Facility, Fort Collins, CO
- TP 537 **Proteomic Determination of the Proteins Interacting with PKC α in the NGF/ATP Differentiation Process;** Consuelo Marin Vicente³; Marta Guerrero Valero¹; Michael Lund Nielsen²; Mikhail Savitski³; Juan Carmelo Gomez Fernandez¹; Roman Zubarev³; Senena Corbalan Garcia¹; ¹University of Murcia, Murcia, Spain; ²Max-Planck-Institute for Bio. Martinsried, Germany; ³Uppsala University, Uppsala, Sweden
- TP 538 **A Systems-Approach to Studying Histone H4 and Its Epigenetic Regulatory Role in Human Embryonic Stem Cells;** Justin Brumbaugh¹; Doug Phanstiel¹; James

- A Thomson¹; Joshua J. Coon²; ¹University of Wisconsin, Madison, WI; ²Univ of Wisconsin-Madison, Madison, WI
- TP 539 **Quantitative Proteomic Analysis of MyD88-Dependent Signal Regulation for Innate Immune Response;** Ying Du; Yanbao Yu; Qianchuan He; Xian Chen; University of North Carolina, Chapel Hill, NC
- TP 540 **Dynamic Remodeling of CEBP α Protein Complexes in Myeloid Differentiation and Leukemogenesis;** Rositsa Koleva; Scott Ficarro; Manor Askenazi; Jignesh Parikh; Shaojuan Li; Jarrod Marto; Dana Farber Cancer Instit, Boston, MA
- TP 541 **Shotgun Proteomic Analysis of a Model 7-member Human Gut Microbiota Created in Gnotobiotic Mice;** Alison L. Russell^{1,2}; Nathan C. Verberkmoes²; Nathan McNulty³; Manesh Shah²; Jeffrey Gordon³; Robert Hettich²; ¹Genome Sciences & Technology, UT-Knoxville, Knoxville, TN; ²Oak Ridge National Laboratory, Oak Ridge, TN; ³Center for Genome Sciences, Washington University, St. Louis, MO
- TP 542 **Probing Changes in Biochemical Pathways in Environmentally Important Methanotrophs;** Konstantinos Thalassinou¹; Nisha Patel¹; Susan E. Slade¹; Vibhuti Patel¹; Andrew Crombie¹; J. Colin Murrell¹; Chris Hughes²; Joanne B. Connolly²; Jim Langridge³; James Scrivens¹; ¹University of Warwick, Coventry, UK; ²Waters, Manchester, UK; ³Waters Corporation, Manchester, UK
- TP 543 **Translational Effect of Microrna-21 on Protein Expression Studied with Metabolically Labeled TGF- β 1 Transgenic Mice;** Jihyeon Lim¹; Huimin Shang¹; Vikram Padmanabhan¹; Xiaohong Jing¹; Christine Esau²; Ruth Hogue Angeletti¹; Markus Bitzer¹; ¹Albert Einstein College of Medicine, Bronx, NY; ²Regulus Therapeutics, Carlsbad, CA
- TP 544 **Altered Proteolytic Events in Experimental Autoimmune Encephalomyelitis Discovered by iTRAQ Shotgun Proteomics Analysis of Spinal Cord;** Mohit R Jain; Shengjie Bian; Tong Liu; Jun Hu; Stella Elkabes; Hong Li; New Jersey Medical School Cancer Research Center, Newark, NJ
- TP 545 **Fed and Fasted Physiology Plays Significant Role in Shaping the Rat Liver Lipid Droplet Proteome;** Bindu Abraham²; Michael Sweredoski¹; Carole Sztalryd³; Sonja Hess¹; ¹Caltech, Pasadena, CA; ²FDA, Bethesda, MD; ³University of Maryland, Baltimore, MD
- TP 546 **Systems Approach to Identify, Explore Components and Interactions of Presynapse Protein Network;** Rong Wang¹; Georgia Dolios²; Noura S. Abul-Husn²; Avi Ma'ayan²; Lakshmi A. Devi²; ¹Mount Sinai School of Med, New York, NY; ²Mount Sinai School of Medicine, New York, NY
- TP 547 **Signaling Proteins are Less Abundant in Lipid Raft Proteomes of Tumorigenic Human Breast Cells;** Joseph Caruso; Paul Stemmer; Wayne State University, Detroit, MI
- TP 548 **Proteomics Analysis Reveals Overexpression of the Tyrosine Kinase AXL as a Novel Mechanism of Lapatinib Resistance in Breast Tumor Cells;** Roland S. Annan; Therese Collingwood; Francesca Zappacosta; Dean McNulty; James Greger; Michael Huddleston; Anne-Marie Martin; Hong Shi; Yuan Liu; Joel Greshock; Ganesh Sathe; Li Liu; Tona Gilmer; GlaxoSmithKline, King of Prussia, PA
- TP 549 **Knock Down, Drag Out Proteomics for Biomarker Validation;** Devanand M. Pinto¹; Stephen A Tate²; Christie L Hunter³; Kenneth Chisholm¹; ¹NRC, Halifax,

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- Canada; ²MDS Analytical Technologies, Concord, ON; ³Applied Biosystems, Foster City, CA
- TP 550 **Proteomic Identification of Novel Protein Targets and Downstream Effects of MicroRNA-155 in B Cell Lymphoma**; Shi-jian Ding; Yulei Shen; Miao Liu; Steven Hinrichs; John Chan; *Univ of Nebraska Med Center, Omaha, NE*
- TP 551 **Systems Biology Analyses of Leukemia Stem Cells to Identify Novel Regulators of Self-Renewal**; Matthias Trost¹; Olivier Herault^{1,2}; Martin Sauvageau^{1,3}; Amelie Faubert^{1,3}; Nadine Mayotte¹; Guy Sauvageau^{1,4}; Pierre Thibault^{1,5}; ¹Institute for Research in Immunology and Cancer, Montréal, Canada; ²INSERM ESPRI-EA3855, Tours, France; ³Dept. of Molecular Biology, Université de Montréal, Montréal, Canada; ⁴Dept. of Medicine, Université de Montréal, Montréal, Canada; ⁵Dept. of Chemistry, Université de Montréal, Montréal, Canada
- TP 552 **Application of Label-Free Quantitative LC-MS-Based Proteomics for Biomarker Identification in *Salmonella Typhimurium***; Charles Ansong¹; Hyunjin Yoon²; Marina A. Gritsenko¹; Heather M. Mottaz-Brewer¹; Joshua N. Adkins¹; Fred Heffron²; Richard D. Smith¹; ¹Pacific NW National Lab, Richland, WA; ²Oregon Health and Science University, Portland, OR
- TP 553 **Determination of Cytokine Signaling-Dependent Protein Stability by Pulse-Chase SILAC Experiments**; Joseph Anthony; Shujun Lin; Vincent Duronio; Juergen Kast; *University of British Columbia, Vancouver, Canada*
- TP 554 **Effects of Strain Type and Growth Conditions on the Secretome of *Tetrahymena thermophila***; Casey Madinger¹; Kathleen Collins²; Christopher Taroni¹; Jack Benner¹; ¹New England BioLabs, Ipswich, MA; ²University of California, Berkeley, Berkeley, CA
- TP 555 **Proteomic Analysis of *Trypanosoma cruzi* Intracellular Amastigotes**; Xiang Zhu; James A Atwood III; Brent Weatherly; Todd A Minning; Rick L. Tarleton; Ron Orlando; *Univ. of Georgia, Athens, GA*
- TP 556 **Quantitative Proteomics Analysis of Ionizing Radiation-Induced Dose-dependent Dynamics of ATM-Associated Complexes**; YuanYu Lee¹; Yanbao Yu³; Nedyalka Dicheva²; Xian Chen^{1,2}; ¹University of North Carolina, Chapel Hill, NC; ²UNC-Duke Proteomics Center, Chapel Hill, NC; ³Institute of Biomedical Studies, Fudan University, Shanghai, China
- TP 557 **Leaf Development and Cellular Differentiation of the Maize Leaf Organ Defined by Large Scale Quantitative Proteomics and Cluster Analysis**; Klaas J. Van Wijk; Giulia Friso; Wojciech Majeran; *Cornell University, Ithaca, NY*
- TP 558 **Quantitative Global Proteome and Phosphoproteome Profiling of Plant Immune Signaling Triggered by Pathogen Effector**; Zhouxin Shen; Chris C.N. van Schie; Amanda G. Mason; Steven P. Briggs; *University of California, San Diego, La Jolla, CA*
- TP 559 **Metabolomics: From Solution to Surfaces**; Gary Siuzdak; Oscar Yanes; Hin-koon Woo; Trent Northen; Sunia Trauger; Paul H Benton; Gary J Patti; William Wikoff; *The Scripps Research Institute, La Jolla, CA*
- TP 560 **The Creation and Application of Theoretical Mass Spectra for Radio-Labelled Pharmaceutical Compounds**; Richard T. Gallagher²; Tim Smith²; Kirsten Hobby¹; ¹Kisotopic Solutions, Manchester, UK; ²AstraZeneca, Macclesfield, UK
- TP 561 **Mass Defect Trigger IDA to Improve Selection of Candidate Ions for MSMS Confirmation of Metabolites From *in-vivo* Samples**; J.c. Yves Leblanc¹; Eva Duchoslav¹; Nic Bloomfield²; ¹MDS Analytical Technologies, Concord, On, Canada; ²MDS Analytical Tech- Sciex, Concord, ON
- TP 562 **Integrated Approach to API Quantitation and Rapid *in vivo* Metabolic Profiling in Early Discovery PK Assays**; Asoka Ranasinghe; Bogdan Slecza; Celia Darienzo; Ragu Ramanathan; William Humphreys; Timothy Olah; *Bristol-Myers Squibb Company, Princeton, NJ*
- TP 563 **Intelligent Workflows (MS^M) for Metabolite Screening and Characterization Using an LTQ Orbitrap**; Yingying Huang¹; Ji Ma²; Jae C. Schwartz¹; Robert Cho²; Yan Chen¹; Tim Carlson²; ¹Thermo Fisher Scientific, San Jose, CA; ²Amgen Inc., South San Francisco, CA
- TP 564 **Application of Statistical Uncertainty Derived from Experimental *in situ* Mass Spectrometer Performance Can Differentiate between Probable and Improbable Candidate Formulae**; Kirsten Hobby¹; Richard T. Gallagher²; ¹Kisotopic Solutions, Manchester, UK; ²AstraZeneca, Macclesfield, UK
- TP 565 **Small Molecule Characterization from Molecular Formula Determination to Automated Structure Verification**; Herbert Thiele¹; Sebastian Goetz¹; Aiko Barsch¹; Ulrich Braumann²; Manfred Spraul²; ¹bruker Daltonik GmbH, Bremen, Germany; ²Bruker Biospin, Rheinstetten, Germany
- TP 566 **Novel Metabolite Search Using Stable Isotope Labeled Docosahexaenoic Acid Coupled to HPLC/MS/MS**; Jeongrim Lee; Karl Kevala; Hee-yong Kim; *National Institutes of Health, Bethesda, MD*
- TP 567 ***In vivo* Metabolic Profiling of Carbamazepine in Brain and CSF Using an Advanced Hybrid Quadrupole-Ion Trap System and Fast Chromatography**; Ru Qiu (Sophie) Pan²; Hesham Ghobarah¹; Tanya Gamble¹; Henrianna Y. Pang²; Yingbo Yang²; Julia Izhakova²; Douglas J. Turk²; ¹Applied Biosystems / MDS Analytical Technologies, Concord, Canada; ²NoAb BioDiscoveries Inc., Mississauga, Canada
- TP 568 **Intelligent Data Acquisition and Metabolite Detection in Complex Matrices Using an Automated Mass Exclusion Calculator**; Tim J Stratton¹; Shichang Miao¹; Yingying Huang²; Thomas D McClure²; ¹ChemoCentryx, Mountain View, CA; ²ThermoFisher Scientific, San Jose, CA
- TP 569 **Identification of Metabolites by Microbore Liquid Chromatography and Accurate Mass Triggered Data-Dependent Mass Analysis Using an LTQ/Orbitrap**; Heng-Keang Lim; Jose Silva; *Johnson and Johnson PRD, Raritan, NJ*
- TP 570 **Development of a Metabolite Identification Workflow Using MALDI-QToF and Multivariate Statistical Analysis**; Stephen McDonald²; Andrew Baker²; Henry Y. Shion¹; ¹Waters Corp., Milford, MA; ²Waters Corporation, Beverly, MA
- TP 571 **Application of Multivariate Analysis for Determining Metabolic Profiles of Drugs: A Case Study Using Nefazodone**; Richard Schneider; Hui Zhang; Lillian Mu; Amit Kalgutkar; *Pfizer Inc., Groton, CT*
- TP 572 **Metabolite Profiling of Acetaminophen in Human Saliva Using UPLC-MS and MetaboLynx®**; Jordan Richardson¹; Dr David Douce²; Dr Catherine

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- Duckett¹; ¹Keele University, Stoke-on-trent, UK; ²Waters Corporation, Manchester, UK
- TP 573 **A Study of Tetrapyrroles Compounds, i.e. Bile Pigment Metabolites, Using ESI-MS/MS Method;** Nhu Quynh, Thi Nguyen; Nhu Quynh, Thi Nguyen; Chemistry Department, SUNY B, Buffalo, NY
- TP 574 **Fast and Sensitive Metabolite Identification of Amiodarone in Human Bile with UPLC Coupled with a Benchtop oaTOF MS;** Xiaoyan Chen¹; Kate Yu²; Jose Castro-perez²; Dafang Zhong¹; Ke Li¹; John P. Shockcor²; Tiangen You³; ¹Shanghai Institute of Materia Medica, Shanghai, China; ²Waters Corporation, Milford, MA; ³Shanghai Eastern Hospital, Shanghai, China
- TP 575 **A Rapid Automated Approach to Estimate Metabolite Exposure in Pooled Human Plasma Using a Combination of Tecan and LC-MS;** Nirmala Raghavan; Ming Yao; S.Nilgun Comezoglu; William G Humphreys; Ragu Ramanathan; Bristol-Myers Squibb, Princeton, NJ
- TP 576 **Investigation of Isotope Patterns of Pharmaceutical Molecules by Two Independent Detectors in a LTQ/Orbitrap Instrument;** Lin Deng¹; Jianyao Wang²; Ming Gu³; ¹Wyeth, Collegeville, PA; ²Wyeth Pharmaceuticals, Collegeville, PA; ³Cerno Bioscience, Yardley, PA
- TP 577 **Increasing the Hit-Rate in the Automated Structural Elucidation of Product Ions and Drug Metabolites Using an Exhaustive Bond Disconnection Approach;** Laurent Leclercq¹; Michael Hartshorn²; Alastair Hill²; Russel Mortishire-Smith¹; Filip Cuyckens¹; Jose Castro-Perez³; ¹Johnson & Johnson Pharmaceutical Research and Deve, Beerse, BELGIUM; ²Dotmatics, Bishops Stortford, UK; ³Waters Corp., Milford, MA
- TP 578 **High-Throughput and Sensitive Analysis of Phosphorylated Metabolic Intermediates Using MALDI Mass Spectrometry;** Daichi Yukihiro; Daisuke Miura; Hiroyuki Wariishi; Kyushu University, Fukuoka, Japan
- TP 579 **Development of High-Throughput Metabolic Profiling Method Using Highly Sensitive MALDI Mass Spectrometry;** Daisuke Miura¹; Yoshinori Fujimura¹; Shinichi Yamaguchi²; Hirofumi Tachibana¹; Hiroyuki Wariishi¹; ¹Kyushu University, Fukuoka, Japan; ²Shimadzu Corporation, Kyoto, Japan
- TP 580 **Rapid Identification of Drug Metabolites using a Fast Hybrid Triple Quadrupole Linear Ion Trap Mass Spectrometry;** Daniel Lebre; Julie Wingate; Gary Impey; Applied Biosystems/MDS Analytical Technologies, Concord, Canada
- TP 581 **In vivo Metabolic Profiling of Carbamazepine at Physiologically Relevant Concentrations Using Hybrid Quadrupole-Linear Ion Trap Technology;** Tanya Gamble¹; Henrianna Y. Pang²; Sophie Pan²; Yingbo Yang²; William Cui²; Douglas J. Turk²; Hesham Ghobarah¹; ¹Applied Biosystems/MDS Analytical Technologies, Concord, Canada; ²NoAb BioDiscoveries Inc., Mississauga, Canada
- TP 582 **Evaluation of U-HPLC for Multiple Data Dependent Scan Experiments using LTQ-OrbiTrap for Rapid Metabolite Identification and Quantitation;** C. Emily Luk; Petia Shipkova; Jonathan L. Josephs; Bristol-Myers Squibb Co., Hopewell, NJ
- TP 583 **An Accurate-Mass-Based Isotope-Pattern-Filtering Algorithm for Extraction of Drug Metabolites Containing a Fixed Ratio of Isotopes in LC/MS Data;** Peijuan Penny Zhu; Wei Tong; Kevin Alton; Swapan K. Chowdhury; Schering-Plough Research Institute, Kenilworth, NJ
- TP 584 **Determination of Ibuprofen Drug Metabolites in Urine by the Use of Multivariant Analysis;** Masahiro Maeda; Yoshifumi Kogure; Yoshiyuki Ishii; Agilent Technologies, Tokyo, Japan
- TP 585 **A Rapid Metabolite Identification and Reaction Phenotyping Strategy to Reduce Drug Interaction Potentials at Early Drug Discovery Stage;** Shihong Wang; Weiping Jia; Elaine Ginn; Song Lin; Novartis Institute for Biomedical Research, Emeryville, CA
- ENVIRONMENTAL, 586 - 608**
- TP 586 **Improved LC/MS/MS Methods for the Analysis of Perfluorinated Compounds (PFCs) in Whole Fish and Fish Livers;** Amy Delinsky¹; Andrew B. Lindstrom¹; Mark J. Strynar¹; Jerry L. Varns²; Shoji F. Nakayama³; ¹U.S. EPA, Rtp, NC; ²NCBA Inc, SEE Program, Durham, NC; ³ORISE, Oak Ridge, TN
- TP 587 **A Novel Tool for Exposure Source Identification of Perfluoroalkyl Substances Using Enantiospecific HPLC-MS/MS;** Yuan Wang¹; Jonathan W. Martin²; ¹University of Alberta, Edmonton, Canada; ²University of Alberta, Edmonton, Canada
- TP 588 **Pitfalls and Prospects: Analysis of Perfluorinated Compounds (PFCs) Utilizing LC/MS/MS;** Alexander Ruderisch¹; Christian Dausch¹; Juergen Wendt²; Stefan Fenzel²; ¹Agrolab Labor GmbH, Bruckberg, Germany; ²Agilent Technologies, Waldbronn, Germany
- TP 589 **Perfluorinated Compounds in Standard Reference Materials;** Jessica L. Reiner; Jennifer M. Keller; John R. Kucklick; Steven G. O'Connell; Michele M. Schantz; NIST, Charleston, SC
- TP 590 **Study on the Oxidative Degradation Reaction of Sertraline Catalyzed by Fe-TAML/Hydrogen Peroxide System Using Liquid Chromatography/Tandem Mass Spectrometry;** Longzhu Shen; Mark E. Bier; Terrence J. Collins; Carnegie Mellon University, Pittsburgh, PA
- TP 591 **Ozonation of Ethinyl Estradiol (a Synthetic Steroidal Estrogen) in Aqueous-Methanolic Solution: Monitoring by Direct Infusion Electrospray Ionization Mass Spectrometry;** Rodinei Augusti; Clésia C. Nascentes; Karla M. Vieira; Federal University of Minas Gerais, Belo Horizonte/ MG, Brazil
- TP 592 **LC-MS Analysis of Spectrophotometric Chemical Indicator Impurities: Toward Understanding the Impact of Impurities in All Spectrophotometric Analytical Techniques;** Brian P. Gregson; Xuewu Liu; David Fries; University of South Florida College of Marine Scie, St. Petersburg, FL
- TP 593 **Identification of New Photolytic and Photocatalytic Transformation Products of Antibiotic Trimethoprim in Aqueous Solutions by Combination NanoESI-QqTOF-MS-MS and LC-MS-MS;** Despina Tsipi¹; Helen V. Botitsi¹; Sotirios N. Katsikis³; Anastasios Economou³; Spiros D. Garbis²; ¹General Chemical State Laboratory, Athens, Greece; ²B.R.F.A.A., Athens, Greece; ³University of Athens, Athens, Greece
- TP 594 **Determination of Six Antibiotics in Surface Water by On-Line SPE(Solid-Phase Extraction)-Liquid Chromatography Tandem Mass Spectrometry;** Keun-joo Choi¹; Soo-jeon Yoo¹; Jae-soon Roh¹; Seung-Hyun Kim²; ¹waterworks institute, Kimhae, South Korea; ²Civil

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- Engineering Department, Kyungnam University, Masan, South Korea
- TP 595 **Fully Automated Quantification of Different Classes of Cyanobacterial Toxins by Online SPE-LC-ESI-MS/MS;** Liza Viglino¹; Pascal Lemoine¹; Michèle Prévost²; Sébastien Sauvé³; ¹University, Montreal, Canada; ²Polytechnique de Montréal, Montréal, Canada; ³Université de Montréal, Montreal, QC
- TP 596 **LDTD-APCI-MS/MS: Optimization and Method Application for Selected Endocrine Disrupting Compounds in Water Matrices;** Paul B. Fayad¹; Michèle Prévost²; Sébastien Sauvé¹; ¹Université de Montréal, Montreal, Quebec, Canada; ²École Polytechnique de Montréal, Montreal, Quebec, Canada
- TP 597 **High Throughput Analysis of Some Endocrine Disrupting Compounds (EDCs) in Solid Matrices by LDTD-MS/MS;** Liza Viglino¹; Paul Fayad²; Michèle Prévost³; Sébastien Sauvé⁴; ¹University, Montreal, Canada; ²Université de Montréal, Montreal, QC; ³École Polytechnique de Montréal, Montréal, Canada; ⁴Université de Montréal, Montreal, QC
- TP 598 **Analysis of Hydroxylated Polybrominated Diphenyl Ether Metabolites Using Atmospheric Pressure Chemical Ionization Liquid Chromatography Mass Spectrometry (APCI LC/MS);** Sara J. Lupton¹; Troy Wood²; Diana Aga²; ¹State University of New York, Buffalo, NY; ²University at Buffalo, Buffalo, NY
- TP 599 **A Comparison of Direct Injection and On-Line Solid Phase Extraction for the Detection of Acidic Herbicides in Water;** Stephen J. Lock¹; Pamela Stoddart¹; Iain Gibb¹; James Thomas²; ¹Applied Biosystems, Warrington, UK; ²SEPA, Glasgow, UK
- TP 600 **LC/MS/MS Analysis of Imidazolinone Herbicides in Sprinkler Irrigation Leachate;** John Headley; Kerry M. Peru; Jonathan Bailey; Allan Cessna; Environment Canada, Saskatoon, Canada
- TP 601 **Use of Accurate Mass Screening to Detect Drugs of Abuse in Sacramento River;** William T. Jewell; UC Davis, Davis, CA
- TP 602 **Improved Method for the Determination of Organochlorine, Organophosphate and Pyrethroid Pesticides in House Dust Using Solid Phase Extraction and GC/ESI-MS/MS;** Cariton Kubwabo; Brian Stewart; Geneviève Grenier; Pat Rasmussen; Health Canada, Ottawa, On, Canada
- TP 603 **Assessment of Occurrence and Removal of Pesticides and Their Degradation Byproducts in Missouri Natural and Treated Drinking Water by LC-MS/MS;** Yinfa Ma¹; Xiaoliang Cheng¹; Honglan Shi²; Craig Adams³; Terry Timmons⁴; ¹Missouri S&T, Rolla, MO; ²Missouri S&T/ERC, Rolla, MO; ³University of Kansas, Lawrence, KS; ⁴Missouri Department of Natural Resources, Jefferson City, MO
- TP 604 **Comparison of Semivolatile Disinfection By-Products Formation in Water Treatment Process with Classic and Perspective Disinfecting Agents;** Olga Polyakova; Maria Khrushcheva; Albert Lebedev; Moscow State University, Moscow, Russian Federation
- TP 605 **Long Term, On-line Monitoring of Disinfection Byproducts in a Public Swimming Pool Using an Un-Supervised MIMS;** Gert H. Kristensen¹; Morten M. Klausen¹; Vagn A. Hansen³; Frants R Lauritsen²; ¹DHI - Water - Environment - Health, Copenhagen, Denmark; ²Chemistry, Copenhagen University, Copenhagen, Denmark; ³Mikrolab Aarhus A/S, Aarhus, Denmark
- TP 606 **Ion Chromatography and MS/MS Quantification of Polyphosphonates and Scale Inhibitors in High Ionic Strength Samples;** Stacy Henday¹; Jinyuan Wang¹; Charles T. Yang²; William C. Schnute¹; ¹Dionex Corporation, Sunnyvale, CA; ²Thermo Fisher Scientific, San Jose, CA
- TP 607 **Food and Environmental Contaminates: Toxic Metals in Food;** Marc E. Engel; FDACS, Tallahassee, FL
- TP 608 **Identification of New Arsenic Species in Construction and Demolition Debris Landfill Leachate and Groundwater using Off-Line IC ICP-MS;** Jianye Zhang¹; Yong Cai²; Timothy Townsend¹; ¹University of Florida, Gainesville, FL; ²Florida International University, Miami, FL
- PROTEOMICS: CLINICAL APPLICATIONS, 609 - 628**
- TP 609 **Identification of Novel Tumor Marker in Human Oral Cancer by Mass Spectrometry-Based Proteomics;** Tsung-ching Lai; Yi-Hua Jan; Chung-Hsuan Chen; Michael Hsiao; The Genomics Research Center, Academia Sinica., Taipei, Taiwan
- TP 610 **Altered Glycosylation Pattern of Total Serum IgG in Patients with Rheumatoid Arthritis Analyzed by MALDI-TOF MS;** Ray Sanchez¹; Katrin Sparbier²; Hassan Dihazi³; Sabine Blaschke³; Gerhard-Anton Mueller³; Thomas Flad⁴; Markus Kostrzewa²; Arndt Asperger²; ¹Bruker Daltonics Inc., Billerica, MA; ²Bruker Daltonik GmbH, Bremen, Germany; ³University of Göttingen, Göttingen, Germany; ⁴PANATecs, Tübingen, Germany
- TP 611 **Wnt Signaling Related Biomarker Discovery and Targeted Detection in Colon Cancer;** Yi Chen; Mike Gruidl; Richard Z. Liu; Ann Chen; Steven Eschrich; Timothy Yeatman; John Koomen; H. Lee Moffitt Cancer Center, Tampa, FL
- TP 612 **Mass Spectrometry Based Analysis and Identification of Candidate Biomarkers in Liver Cancer;** Yi-hua Jan; Tsung-ching Lai; Po-sheng Huang; Michael Hsiao; Genomic Research Center, Academia Sinica, Taipei, Taiwan
- TP 613 **Characterization of Secreted Proteins during the Differentiation of Human Preadipocytes to Adipocytes;** Jun Zhong¹; Sarah Krawczyk²; Raghothama Chaerkady^{1,3}; G. William Wong¹; Barbara E. Corkey²; Akhilesh Pandey¹; ¹Johns Hopkins University, Baltimore, MD; ²Boston University, Boston, MA; ³Institute of Bioinformatics, Bangalore, India
- TP 614 **Direct Orthotopic Human Glioma Models: Protein Analysis Using MALDI-IMS;** Sara L. Frappier¹; Anuraag Sarangi¹; Michael K. Cooper¹; Richard M. Caprioli²; ¹Vanderbilt University, Nashville, TN; ²Vanderbilt Univ Sch of Med, Nashville, TN
- TP 615 **Characterization of Transferrin Isoforms in Cerebrospinal Fluid Using Accurate Mass and MSⁿ;** Kristy J. Brown¹; Yetrib Hathout¹; Fanny Mochel^{2,3}; Raphael Schiffmann³; Adeline Vanderver¹; ¹Children's National Medical Center, Washington, DC; ²Hospital de la Salpetriere, Paris, France; ³Baylor Research Institute, Dallas, TX
- TP 616 **Identificaton of Biomarkers in Patients with Aspergillosis;** Josée Chabot; Donald C. Sheppard; Momar Ndao; Brian J. Ward; Christine Straccini; Bernard F. Gibbs; McGill University, Montreal, Canada
- TP 617 **Proteomic Analysis of Innate Defenses in the Small Intestine: Correlation with Disease Pathophysiology;** Dipankar Ghosh¹; S. K. Venugopal¹; Sunil Kumar²;

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- Uday Ghoshal²; ¹Jawaharlal Nehru University, New Delhi, India; ²Sanjay Gandhi PG Institute of Medical Sciences, Lucknow, India
- TP 618 **A Label-Free Proteomic Analysis of Low Abundance Multiple Myeloma Clinical Samples;** Rick Edmondson; Sheeno Thypambil; Veronica Macleod; Bart Barlogie; John D. Shaughnessy, Jr; *Univ Arkansas Med Sci., Little Rock, AR*
- TP 619 **Unique Insights into Disease Progression Using Quantitative Bottom-Up Proteomics: A Phenotypic Characterization of Chlamydia Infection Using Gel-Free Label-Free LC/MS/MS;** J. Will Thompson; Alex Saka; Laura G. Duboise; Arthur Moseley; Raphael Valdivia; *Duke Univ. School of Medicine, Durham, NC*
- TP 620 **Quantitative Proteome Analysis of CSF Samples Using a Label-Free Proteomics Technology;** Barbara Sitek¹; Sebastian Link¹; Birgit Korte¹; Christian Stephan¹; Wolfgang Jabs²; Daniel C. Chamrad³; Klaus Marquart³; Martin Blueggel³; Carsten Baessmann²; Beate Gleissner⁴; Helmut E. Meyer⁵; Kai Stühler¹; ¹Ruhr-University Bochum, Dortmund, Germany; ²Bruker Daltonik GmbH, Bremen, GERMANY; ³Protagen AG, Dortmund, Germany; ⁴Universitätsklinikum des Saarlandes, Homburg, Germany; ⁵Ruhr University of Bochum, Bochum, Germany
- TP 621 **Revealing the Mystery Behind ‘The Elephant Man’: Proteomic Characterization of Proteus Syndrome;** Shama P. Mirza; Kelly Duffy; Marla A. Chesnik; Regina Cole; David P. Bick; Michael Olivier; *Medical College of Wisconsin, Milwaukee, WI*
- TP 622 **An Extensive Peptide Identification List of MALDI MS Profile Peaks from the Analysis of Human Blood Serum;** Ali Tiss¹; Celia Smith¹; Usha Menon²; Ian Jacobs²; John Timms²; Rainer Cramer¹; ¹University of Reading, Reading, UK; ²UCL, London, UK
- TP 623 **Identification and Quantification of N-Linked Glycoproteins in Human Cerebrospinal Fluid Unique to Parkinson's Disease or Its Progression;** Hyejin Hwang¹; Kathy Chung²; Joseph Quinn²; Elaine Peskind¹; Jing Zhang¹; ¹University of Washington, Seattle, WA; ²Oregon Health and Science University, Portland, OR
- TP 624 **Plasma Methylglyoxal and Correlation with the Severity of Diabetic Albuminuria;** Hussein Yassine; Mike Kimzey; Irene Alvarez; Steve Stratton; Craig Stump; George Tsaprailis; Michael A. Galligan; Serrine S. Lau; *University of Arizona, Tucson, AZ*
- TP 625 **Identification of Biomarkers in Urine and Cell Lines Relating to Bladder Carcinoma;** Wassim Kassouf; Jordan R. Steinberg; David W. Blank; Bernard F. Gibbs; *McGill University, Montreal, Canada*
- TP 626 **Tandem Mass Spectrometry Reveals Novel Insulin Stimulated IRS-1 Interacting Partners;** Zhengping Yi; Moulun Luo; Rebekka Mapes; Natalie Lefort; Paul Langlais; Benjamin Bowen; Lawrence J. Mandarino; *Arizona state university, Tempe, AZ*
- TP 627 **Quantitative Mass Spectrometry Reveals Targets of the Cytotoxic Response to DNA Damage;** Aaron Aslanian¹; John Yates²; Tony Hunter¹; ¹Salk Institute, La Jolla, CA; ²The Scripps Research Institute, La Jolla, CA
- TP 628 **Identification of Subtype-specific Glycoproteins in Triple-Negative Breast Cancer;** Li-Hui Tseng^{1,4}; Pedram Argani¹; Yan Li¹; Yuan Tian¹; Mary Lopez²; Michael Athanas³; Chium-Sheng Huang⁴; Kuan-Ting Kuo⁴; Daniel Chan¹; Hui Zhang¹; ¹Pathology, Johns Hopkins Medical Institutions, Baltimore, MD; ²Thermo Fisher Scientific, Cambridge, MA; ³VAST Scientific, Cambridge, MA; ⁴National Taiwan University Hospital, Taipei, Taiwan
- IONIZATION MECHANISMS, 629 - 647**
- TP 629 **Insights into the Mechanism of Protein Oxidation during Electrospray Ionization;** Brian Boys; Jamie Noel; Lars Konermann; *Univ. of Western Ontario, London, ON*
- TP 630 **Proton Distribution in ESI Nanodroplets: Is the "Surface Charge Concept" Really Tenable?** Elias Ahadi¹; Lars Konermann²; ¹The University of Western On, London, Canada; ²Univ. of Western Ontario, London, ON
- TP 631 **Origin of the Proton Required for the Formation of Gaseous [M+H]⁺ Ions from Aprotic Solvents;** Changching Chan¹; Mark S. Bolgar²; Athula B. Attygalle³; ¹Stevens Institute of Technology, Hoboken, NJ; ²Bristol-Myers Squibb, New Brunswick, NJ; ³Stevens Institute of Technology, Hoboken, NJ
- TP 632 **Probing Temperature Changes in the Electrospray Plume Using Laser-Induced Fluorescence Spectroscopy;** Stephen C. Gibson¹; Yu Zhu²; Charles S. Feigerle¹; Kelsey D. Cook¹; ¹University of Tennessee, Knoxville, TN; ²SABIC Innovative Plastics, Washington, WV
- TP 633 **Spatial Mapping of Analyte Ion Intensity of Nanoelectrospray in the Plume-Inlet Region;** Gary Valaskovic¹; Mike S. Lee²; ¹New Objective, Inc., Woburn, MA; ²Milestone Development Services, Newtown, PA
- TP 634 **Corona Discharge Initiated Electrochemical Ionization;** John R. Lloyd²; Sonja Hess¹; ¹Caltech, Pasadena, CA; ²NIH/NIDDK, Germantown, MD
- TP 635 **Mass Spectrometry of Monolayer Protected Clusters;** Christina A. Fields-Zinna; Royce W. Murray; *UNC-Chapel Hill Chemistry Dept., Chapel Hill, NC*
- TP 636 **The Effects of Matrix, Electrospray Solution, and Laser on Desorption and Ionization Mechanisms in Electrospray-Assisted Laser Desorption Ionization Mass Spectrometry;** Chu-Nian Cheng; Min-Zong Huang; Jentaie Shiea; *National Sun Yat-Sen Univ., Kaohsiung, Taiwan*
- TP 637 **Mechanisms Involved in Positive Atmospheric Pressure Chemical Ionization (APCI) of an LDTD Source;** Pierre Picard¹; E. Real Paquin²; Patrice Tremblay³; ¹Phytronix Technologies, Inc., Quebec, Canada; ²Université Laval, Québec, QC; ³Phytronix Technologies, Quebec, QC
- TP 638 **Detection of Security Relevant Substances with Single Photon Ionization Mass Spectrometry within complex Matrices;** Jasper Hoelzer¹; Elisabeth Schramm¹; Ralf Zimmermann²; ¹Helmholtz-Zentrum Muenchen, Neuherberg, Germany; ²University of Augsburg, Augsburg, Germany
- TP 639 **Nanopost Array (NAPA) Photonic Ion Sources for Soft Laser Desorption Ionization;** Bennett N Walker¹; Jessica A. Stolee¹; Deanna Pickel²; Scott Reterrer²; Akos Vertes¹; ¹George Washington University, Washington, DC; ²Oak Ridge National Laboratory, Oak Ridge, TN
- TP 640 **Ionization Mechanisms in MALDI – A Case Study of Fullerene C60;** Ilko Bald; Benedikt Ómarsson; Oddur Ingolfsson; *University of Iceland, Reykjavik, Iceland*
- TP 641 **Examining Matrix Ion-Pair Hypothesis of MALDI Mechanism Using Synchronized Dual-Polarity MALDI-TOF Mass Spectrometry;** Yi-Sheng Wang; Bo-Hong Liu; Yuan T. Lee; *Academia Sinica, Taipei, Taiwan*

TUESDAY POSTERS

- TP 642 **Ion Transport Processes in API Sources: Temporally and Spatially Resolved APLI Measurements;** Matthias Lorenz; Walter Wissdorf; Sonja Klee; Hendrik Kersten; Klaus J. Brockmann; Thorsten Benter; *University of Wuppertal, Wuppertal, Germany*
- TP 643 **Proton Source of Matrix-Assisted Laser Desorption/Ionization Using an Infrared Laser;** Sachiko Suzuki; Tamami Fujita; Satoshi Fukumoto; Hiroshi Horiike; Kunio Awazu; *Osaka University, Osaka, Japan*
- TP 644 **Laser Desorption Ionization Mass Spectrometry of Heavy Alkali Earth Metal Cations;** Freneil Jariwala¹; Athula B. Attygalle²; ¹*Stevens Institute of Tech, Hoboken, NJ*; ²*Stevens Institute of Technology, Hoboken, NJ*
- TP 645 **Distinct Features of Matrix-Assisted 6 μ m Infrared Laser Desorption/Ionization Mass Spectrometry;** Yoshinao Wada¹; Michiko Tajiri²; Takae Takeuchi³; ¹*Osaka MCHRI, Osaka, Japan*; ²*CREST, JST, Izumi, Osaka, Japan*; ³*Nara Women's University, Nara, Japan*
- TP 646 **Ab Initio Study on ionization and Fragmentation in Matrix-Assisted Infrared and Ultraviolet Laser Desorption/Ionization Mass Spectrometry;** Takae Takeuchi^{1,2}; Seika Nabel¹; Yoshinao Wada³; Michiko Tajiri⁴; ¹*Nara Women's University, Nara, Japan*; ²*AIST, Ikeda, Osaka, Japan*; ³*Osaka MCHRI, Izumi, Osaka, Japan*; ⁴*CREST, Izumi, Osaka, Japan*
- TP 647 **Fast Photography of Infrared Laser Plume Ejection in Ambient Mass Spectrometry;** Xing Fan; Kermit K. Murray; *Louisiana State University, Baton Rouge, LA*
- FORENSICS, 648 - 665**
- TP 648 **Orthogonal Array Optimization of Microwave-Assisted Derivatization for Determination of Trace Amphetamine and Methamphetamine Using Negative Chemical Ionization Gas Chromatography-Mass Spectrometry;** Li-wen Chung¹; Keh-Liang Lin²; Thomas Ching-Cherng Yang³; Maw-Rong Lee¹; ¹*National Chung-Hsing University, Taichung, Taiwan*; ²*Chung Shan Medical University, Taichung, Taiwan*; ³*National Kaohsiung Normal University, Kaohsiung, Taiwan*
- TP 649 **Drug Screening in Non-Derivatized Urine by Automated Solid Phase Microextraction (SPME) and Comprehensive Multidimensional Gas Chromatography Time-of-Flight Mass Spectrometry (GCxGC-TOFMS);** Scott Pugh; John R. Heim; Mark Libardoni; *LECO Corporation, St. Joseph, MI*
- TP 650 **LC/MS/MS Analysis of Rodenticide Anticoagulants in Hair;** Juergen Wendt¹; Joerg Roehrich²; Siegfried Zoerntlein²; Juergen Becker²; Reinhard Urban²; ¹*Agilent Technologies, Waldbronn, Germany*; ²*Institute of Legal Medicine, Uni Mainz, Mainz, Germany*
- TP 651 **Characterization of Homemade Explosives (HMEs) and Other Compounds of Military Interest by Ion Chromatography – Tandem Mass Spectrometry (IC-MS/MS);** John A. Tokarz; Joy M. Ginter; *US Army - ECBC, Aberdeen Proving Ground, MD*
- TP 652 **LC/MS/MS Reveals Unexpected Metabolism of 6-Acetylmorphine in Pain Management Patients;** Bridgit Crews¹; Charles Mikel¹; Sergey Latyshev¹; Robert West¹; Amadeo Pesce¹; Patrick Friel²; Ann Smith³; ¹*Millenium Laboratories, San Diego, CA*; ²*Toxicology Laboratory WSP Forensic Laboratory, Seattle, Wa*; ³*eLab, Atlanta, GA*
- TP 653 **High Throughput Analysis of Performance Enhancing Drugs by Automated Solid-Phase Extraction and Liquid Chromatography Time-of-Flight Mass Spectrometry;** Brian Shofran; *LECO Corporation, St. Joseph, MI*
- TP 654 **Use of MRM3 for Easy and Selective Detection of THC Carboxylic Acid Direct from Hair;** Detlef Thieme³; Hans Sachs²; Birgit Schlutt¹; Axel Besa¹; ¹*Applied Biosystems, Darmstadt, Germany*; ²*FTC Munich, Munich, Germany*; ³*Department of Sports Medicine and Doping Analysis, Kreischa, Germany*
- TP 655 **Direct Surface Analysis of Inorganic Salts by Desorption Electrospray Ionization (DESI);** Ewa Sokol; Ayanna Jackson; Nathaniel Sanders; R. Graham Cooks; *Purdue University, West Lafayette, IN*
- TP 656 **MALDI-TOF-MS Fingerprinting of Condom Lubricants and Residues and Their Differentiation from Biological Fluids;** Sandra Spencer¹; Kevin Schug²; ¹*Univ. of Texas at Arlington, Arlington, TX*; ²*University of Texas at Arlington, Arlington, TX*
- TP 657 **Mass Spectrometry and Illicit Drug Testing: Application of GC/MS for the Study of Liposomes as Masking Agents in Sport Doping;** Alessandra Trieri^{1,2}; Xavier de la Torre²; Simone Esposito²; Francesco Botre^{1,2}; ¹*Sapienza University of Rome, Rome, Italy*; ²*Laboratorio Antidoping FMSI, Rome, Italy*
- TP 658 **Simultaneous On-Line Extraction and LC/MS/MS Analysis of THC and Metabolites in 5 Minutes;** James F Byrd; *Thermo Fisher Scientific, Franklin, CA*
- TP 659 **Analysis of Gabapentin in Equine Plasma by Liquid Chromatography-Tandem Mass Spectrometry;** Ying Liu¹; Xiaoqing Li¹; Cornelius Uboh²; Lawrence R Soma¹; Fuyu Guan¹; Youwen You³; Jeffrey Rudy⁴; Jinwen Chen¹; ¹*University of Pennsylvania, Kennett Square, PA*; ²*West Chester University, West Chester, PA*; ³*University of Pennsylvania, West Chester, PA*; ⁴*PA Equine Toxicology, West Chester, PA*
- TP 660 **Soot as a Forensic Tool in the Mass Spectrometric Detection of Chemical Warfare Agents in the Field;** Ronny Robbins; William M. Lagna; *US Army, Gunpowder, MD*
- TP 661 **Forensic Identification of Binary and Ternary Microbial DNA Mixtures Utilizing ESI-TOF Mass Spectrometry;** Joshua K. Stone²; Bruce Budowle¹; James M. Robertson¹; Brian Eckenrode¹; ¹*Fed Bureau of Investigation, Quantico, VA*; ²*Oak Ridge Institute for Science and Education, Oak Ridge, TN*
- TP 662 **GCxGC-MS Analysis of Ricin Processing Carbohydrate Markers;** David Wunschel; Heather A Colburn; Antolick Kate; Jon H Wahl; Helen Kreuzer; Angie Melville; Karen L. Wahl; *Pacific Northwest National Laboratory, Richland, WA*
- TP 663 **Extreme Dilution and Large-Volume Injection: Eliminates Matrix Effects while Maintaining Sensitivity for the Analysis of Drugs in Urine;** Syam Sundar Andra¹; Patrick N. Friel²; Jennifer A. Field¹; ¹*Oregon State University, Corvallis, OR*; ²*Washington State Toxicology Laboratory, Seattle, WA*
- TP 664 **Withdrawn**
- TP 665 **Laser Desorption Mass Spectrometry of Inorganic Compounds of Forensic Interest;** Josette Marrero; Emily O'Neill; Trevor Cornell; John Allison; *The College of New Jersey, Ewing, NJ*